Qsee®
simplicity - quality - technology

User Manual

QT SERIES

QT SERIES

Conventional and SDI DVRs

Thank You for Choosing a Q-See Product!

All of our products are backed by a conditional service warranty covering all hardware for 12 months from the date of purchase. Additionally, our products also come with a free exchange policy that covers all manufacturing defects for one month from the date of purchase. Permanent upgrading service is provided for the software and is available at www.Q-See.com.

Be certain to make the most of your warranty by completing the registration form online. In addition to warranty and technical support benefits, you'll receive notifications of product updates along with free downloadable firmware updates for your DVR. Register today at www.Q-See.com!

Please see the back of this manual for exclusions.

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Manufacturer shall not be liable for any damages whatsoever from misuse of this product.

About this Manual

This manual is written for the QT family of Conventional and SDI DVRs. Not all features and capabilities are shared across all models so you may see features described which are not applicable or available on your machine. In addition you may see screen images that do not exactly match those on your display.

This manual was accurate at the time it was completed. However, because of our ongoing effort to constantly improve our products, features and functions may have been added or changed since that time and on-screen displays may change. We encourage you to visit our website at www.Q-See.com to check for the latest firmware updates and product announcements.

Throughout the manual we have highlighted warnings and other important information that will assist you in operating your new system in a safe and trouble-free manner. Please take the time to read and follow all instructions and pay attention to alerts as shown below:

IMPORTANT! Red boxes with this icon indicate warnings. To prevent possible injury or damage to the product, read all warnings before use.

NOTE! Text in blue boxes with the Information icon offer additional guidance and explanations about how to make the most out of your system.

AN IMPORTANT NOTE ABOUT CONVENTIONAL AND SDI SYSTEMS

Depending upon the model, your DVR is equipped to work with conventional analog cameras or digital high definition SDI (Serial Digital Interface) cameras. Both cameras use similar cables and connectors, (see **Section 2.5** for connection instructions) but they are not interchangeable as they are two completely different - and incompatible - technologies. If you are adding cameras beyond those that came packaged with your DVR, be sure to check that they are compatible with your system.

Aside from this, the operation of the DVR is identical regardless of the technology. The primary difference is in resolution. Conventional cameras offer resolutions up to 700 TVL (Television Lines) as of this writing while Q-See's SDI cameras record in 1080p high definition which is roughly equivalent to 1000 TVL. Similarly, the conventional DVRs can only record files up to the D1 format (704x480 pixels) while the SDI systems will record in formats up to 1080p (1920x1080 pixels).

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INTRODUCTION CHAPTER 1

FOR YOUR SAFETY

To prevent damage to your Q-See product or injury to yourself or to others, read and understand the following safety precautions in their entirety before installing or using this equipment. Keep these safety instructions where all those who use the product will read them.

WARNING! ELECTRIC SHOCK RISK!

- Check the unit and any accessories included in the package immediately after opening. If items are missing or damaged, repackage and return to the point of purchase.
- Use the proper power source. Only use the power adapter supplied with your system. Do not use this product with a power source that applies more than the specified voltage (100-240V AC).
- Never insert anything metallic into the DVR. Inserting anything into the DVR or its case can be a source of dangerous electric shock.
- Do not operate in dusty areas. Avoid placing the DVR in places that are dusty.
- Do not expose this product to rain or use near water. If this product accidentally gets wet, unplug it and contact Q-See immediately.
- Keep product surfaces clean and dry. To clean the outside case of the DVR, gently wipe using a lightly dampened cloth (only use water, do not use solvents).
- Do not operate this DVR without the cover securely in place. Do not attempt to do any repairs to the DVR yourself. If there are unusual sounds or smells coming from the DVR, unplug it immediately and contact Q-See technical support. Under no circumstances should the cover be removed while the device is connected to a power source. You should only remove the cover to install/replace the hard disk drive (**See Chapter 9**) or replace the standard 3v lithium cell battery on the motherboard. These are the only user serviceable parts. You may need to replace the battery if the internal clock resets itself after a power outage
- Handle the DVR carefully. If you accidentally drop your DVR on any hard surface, it may cause a malfunction. If the DVR doesn't work properly due to physical damage, contact an authorized dealer for repair or exchange.
- Make sure there is proper air circulation around the unit. This DVR system uses a hard drive for video storage which generates heat during operation. Do not block air holes located on the bottom, top, sides and back of the DVR as they are designed to keep the system cool while running. Install or place this product in an area where there is ample air circulation.
- Provide proper ventilation. This DVR has a built-in fan that properly ventilates the system. Do not cover or impede this fan.

FEATURES

This DVR uses high-performance video processing chips and an embedded Linux operating system for quality image recording and ease of use. It utilizes numerous advanced technologies including the industry-standard H.264 compression to deliver high-quality, smooth videos and dual stream capability for remote viewing. A SATA hard-drive interface offers upgradability and VGA output allows users to connect to any TV or monitor with VGA input for viewing.

Local control of the system utilizes a mouse and graphical user interface (GUI) as well as a remote control. Users can also remotely monitor and control their system using a web browser or select mobile device.

This DVR uses cutting-edge technology without compromising stability and reliability making it ideal for home use as well as in warehouse, factory, retail and other similar environments.

COMPRESSION FORMAT

- Standard H.264 compression with low bit rate and high image quality

LIVE SURVEILLANCE

- Supports VGA output
- Supports channel security by hiding live display
- Displays the local record state and basic information
- Supports full control with USB mouse
- Supports digital zoom on live and playback view

RECORDING MEDIA

- Supports SATA hard disk drives up to 3TB each for longer recording times.

BACKUP

- Supports backing up to USB 2.0 devices
- Some models support eSATA external hard drives
- Supports saving recorded files with AVI format to a remote computer through internet

RECORDING & PLAYBACK

- Record modes: Manual, Schedule, Motion detection and Sensor alarm recording
- Supports recycle after HDD is full
- Resolution, frame rate and picture quality are adjustable
- 128MB for every video file packaging
- Up to 16 audio channels available depending on model
- Two record search modes: time search and event search
- Supports multi-screen simultaneous playback
- Supports deleting and locking the recorded files one by one
- Supports remote playback in Network Client through LAN or internet
- Supports recording in CIF and D1 resolutions.
- SDI models support recording in 720P and 1080P HD resolutions.

ALARM

- 1-4 channel alarm output and up to 16-channel (depending on model) alarm input available
- Supports scheduling for motion detection and sensor alarm
- Supports pre-recording and post recording
- Supports linked channels recording once motion or alarm is triggered on designated channel
- Supports linked PTZ preset, and auto cruise

PTZ CONTROL

- Supports multiple PTZ protocols (PelcoP, PelcoD, LILIN, MINKING, NEON, STAR, VIDO, DSCP, VISCA, and RANGE)
- Supports 128 PTZ presets and 8 auto cruise tracks
- Supports remote PTZ control through internet

SECURITY

- Customize user rights: log search, system setup, two way audio, file management, disk management, remote login, live view, manual record, playback, PTZ control and remote live view
- Supports 1 administrator and 15 users.
- Supports event log recording and checking, events unlimited

NETWORK

- Supports TCP/IP, DHCP, PPPoE, DDNS
- Supports Internet Explorer and Safari browsers to do remote viewing
- Supports a maximum of 10 user connections simultaneously
- Supports dual stream. Network stream is adjustable independently to fit the network bandwidth and environment.
- Supports picture snap and color adjustment in remote live view
- Supports remote time and event search, and channel playback with picture snap
- Supports remote PTZ control with preset and auto cruise
- Supports remote full menu setup, changing all the DVR parameters remotely
- Supports mobile surveillance by smart phones, Win Mobile Pro, Win 7 Mobile, Symbian, and iPhones, iPads, Android, and Blackberry on 3G networks
- Supports CMS to manage multiple devices over the internet
- Administrator can limit user access to specific cameras
- Administrator can disconnect online users

NOTE! Depending on your point of purchase, your DVR may have the hard disk drive already installed. If your drive was packaged separately or if you wish to upgrade to up to a larger hard drive, please see **Chapter 9** at the back of this manual which covers installing the drive.

CONNECTIONS AND CONTROLS CHAPTER 2

You may view this DVR using a standard 19" (or larger) VGA monitor or a television. The former is connected using the VGA port on the back panel while the television utilizes the BNC "Video Out" port on the back. Your DVR is configured to use the VGA port as the main display. To use a TV, you will need to press and hold the STOP/ESC, EXIT or VGA/TV button (depending on model) for approximately 10 seconds until you hear a beep indicating that the video mode has been switched. A display connected to the other port will not show the menu.

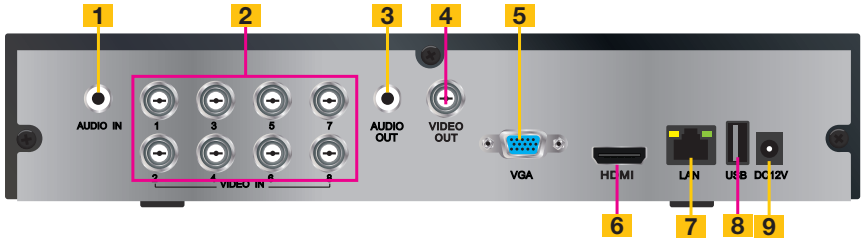
2.1 DVR FUNCTIONS AND CONNECTIONS

QT228

FRONT PANEL

ITEM	NAME	FUNCTION
1	INDICATOR LIGHTS	Shows the recording, network and power status of the DVR.
2	INFRARED WINDOW	Receives signals from the remote control
3	VIDEO MODE BUTTON	Press and hold 10 seconds (or until you hear a beep) to switch video output from the VGA port (default) to the BNC video out port.
4	USB PORT	Used for external USB backup devices.

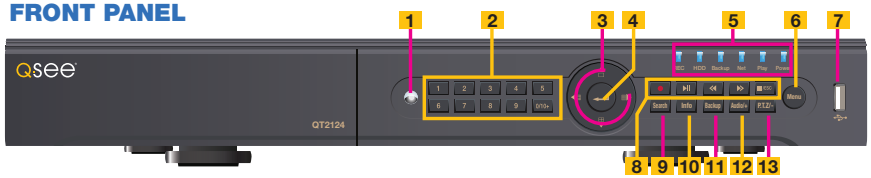
REAR PANEL



ITEM	NAME	FUNCTION
1	AUDIO IN	2 Channels of audio input
2	VIDEO IN	Video input from up to 8 cameras
3	AUDIO OUT	BNC Audio output for amplified speaker
4	VIDEO OUT	BNC connector for TV or monitor
5	VGA PORT	VGA output for 19" or larger monitor
6	HDMI	HDMI video output
7	LAN	Network (ethernet) port
8	USB PORT	For the USB mouse
9	DC IN	Power input for 12V DC power supply

QT2124

FRONT PANEL



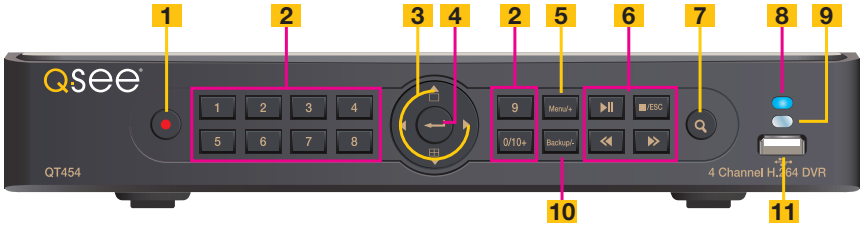
ITEM	NAME	FUNCTION
1	**IR RECEIVER**	Receives signals from remote control
2	**NUMBER BUTTONS**	Select individual channels for full screen view
3	**DIRECTION**	Selects multi-screen viewing mode Navigates through selections in menus
4	**ENTER**	Confirm Selection
5	**INDICATOR LIGHTS**	Shows status of the DVR Functions and the Hard Drive
6	**MENU**	Opens the Main Menu Increases the value in Setup mode
7	**USB PORT**	Used for external USB backup devices.
8	**PLAYBACK CONTROLS**	In addition to normal DVR playback and record operation, the following have additional functions: **RECORD** Controls Focus in PTZ mode **REVERSE** Controls Speed in PTZ mode **STOP/ESC** Exits current interface or status Also switches video output mode.
9	**SEARCH/ZOOM**	Enter Search mode Controls Zoom function in PTZ mode
10	**INFO**	Displays system information
11	**BACKUP**	Enter Backup mode Decreases the value in Setup mode
12	**AUDIO**	Mutes or unmutes audio
13	**PTZ**	Enter PTZ mode

BACK PANEL

ITEM	NAME	FUNCTION
1	**VGA PORT**	VGA output for 19” or larger monitor
2	**VIDEO OUT**	BNC connector for TV or monitor
3	**VIDEO IN**	BNC connectors for up to 24 cameras
4	**PTZ**	Connections for Pan-Tilt-Zoom speed dome cameras. Y = “+” Z = “-”
5	**AUDIO IN**	4 channels of audio input
6	**FAN**	Cooling fan exhaust port. This should not be blocked.
7	**NET**	Network (ethernet) port
8	**USB PORT**	For the USB mouse
9	**SPOT OUT**	Connect to another monitor as an auxiliary output channel. This monitor will only display video and will have no menu access.
10	**K/B**	Connector for a PTZ keyboard
11	**ALARM OUT**	1 Channel relay output for external alarm
12	**ALARM IN**	Connections for up to 16 external sensors
13	**DC IN**	Power input for 12V DC power supply

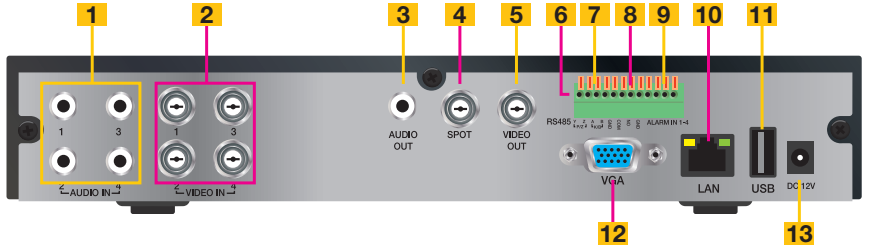
QT454

FRONT PANEL



ITEM	NAME	FUNCTION
1	**POWER**	Power On/Off
2	**NUMBER BUTTONS**	Select individual channels and enter data where required
3	**DIRECTION**	Navigates through selections in menus Selects viewing mode - Full Screen or 4-Channel Multi-Screen View
4	**ENTER**	Confirm Selection
5	**MENU**	Opens the Main Menu Increases the value in Setup mode
6	**PLAYBACK CONTROLS**	In addition to normal DVR playback and record operation, the following have additional functions: RECORD Controls Focus in PTZ mode REVERSE Controls Speed in PTZ mode STOP/ESC Exits current interface or status Also switches video output mode.
7	**SEARCH/ ZOOM**	Enter Search mode Controls Zoom function in PTZ mode
8	**INDICATOR LIGHT**	Shows power status of the DVR
9	**INFRARED WINDOW**	Receives signals from the remote control
10	**BACKUP**	Enter Backup mode Decreases the value in Setup mode
11	**USB PORT**	Used for external USB backup devices.

REAR PANEL



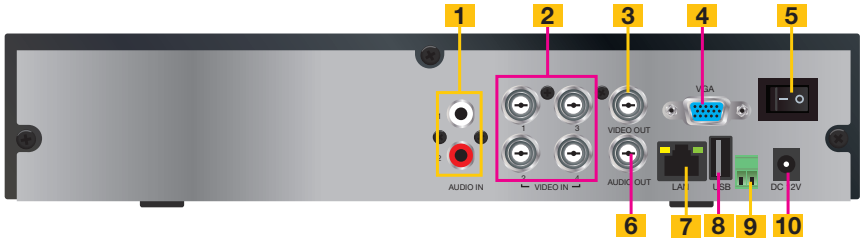
ITEM	NAME	FUNCTION
1	**AUDIO IN**	4 Channels of audio input
2	**VIDEO IN**	Video input from up to 4 cameras
3	**AUDIO OUT**	Audio output for amplified speaker
4	**SPOT OUT**	Connect to another monitor as an auxiliary output channel. This monitor will only display video and will have no menu access.
5	**VIDEO OUT**	BNC connector for TV or monitor
6	**PTZ**	Connections for Pan-Tilt-Zoom speed dome cameras. Y = “+” Z = “-”
7	**K/B**	Connector for a PTZ keyboard
8	**ALARM OUT**	1 Channel relay output for external alarms
9	**ALARM IN**	4 Channel input for external sensors and alarms
10	**LAN**	Network (ethernet) port
11	**USB PORT**	For the USB mouse
12	**VGA PORT**	VGA output for 19” or larger monitor
13	**DC IN**	Power input for 12V DC power supply

QT474

FRONT PANEL

ITEM	NAME	FUNCTION
1	**INDICATOR LIGHTS**	Shows the recording, network and power status of the DVR.
2	**INFRARED WINDOW**	Receives signals from the remote control
3	**VIDEO MODE BUTTON**	Press and hold 10 seconds (or until you hear a beep) to switch video output from the VGA port (default) to the BNC video out port.
4	**USB PORT**	Used for external USB backup devices.

REAR PANEL



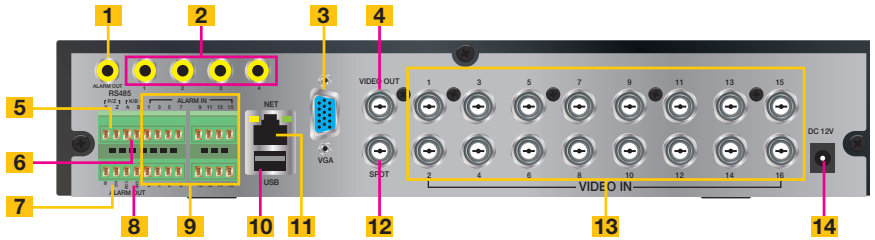
ITEM	NAME	FUNCTION
1	**AUDIO IN**	2 Channels of audio input
2	**VIDEO IN**	Video input from up to 4 cameras
3	**VIDEO OUT**	BNC connector for TV or monitor
4	**VGA PORT**	VGA output for 19” or larger monitor
5	**POWER SWITCH**	Use to turn on the DVR as well as to turn off after powering down from within the GUI
6	**AUDIO OUT**	BNC Audio output for amplified speaker
7	**LAN**	Network (ethernet) port
8	**USB PORT**	For the USB mouse
9	**PTZ**	Connections for Pan-Tilt-Zoom speed dome cameras.
10	**DC IN**	Power input for 12V DC power supply

QT426

FRONT PANEL

ITEM	NAME	FUNCTION
1	LED INDICATORS	Show status of power, HDD, record, etc.
2	IR RECEIVER	Receives signals from remote control
3	RECORD	Manually begins recording
4	PLAY	Launches PLAYBACK window
5	REW	Rewind key
6	FF	Fast Forward
7	+/MENU	Increase the value in SETUP/Enter menu in LIVE VIEW
8	-/BACKUP	Decrease the value in SETUP/Enter backup mode in LIVE VIEW
9	STOP/ESC	Quit PLAYBACK mode/Exit the current window or status Also switches video output mode.
10	ENTER	Confirm selection
11	DIRECTION/ MULTISCREEN	1. Navigate through on-screen options 2. Change screen display mode between 1, 4, 9 and 16 channels
12	USB	USB port to connect USB flash or external hard drives to update firmware or back up recordings

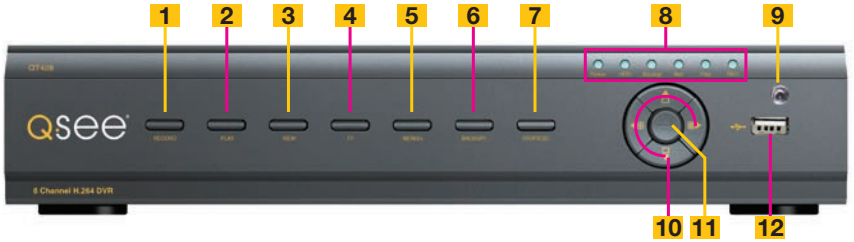
REAR PANEL



ITEM	NAME	FUNCTION
1	AUDIO OUTPUT	Connection for audio output – connect to an amplified speaker
2	AUDIO IN	4-Channel audio input for cameras equipped with audio
3	VGA PORT	Video output for connecting to monitor
4	VIDEO OUT	Video output for connecting to TV (BNC) or monitor
5	RS485	Connect to Pan-Tilt-Zoom camera to control motion
6	K/B	Connect to keyboard
7	ALARM OUTPUT	Output for alarm
8	+5 AND GND	+5 and grounding
9	ALARM IN	Connect to up to sixteen external sensors
10	USB PORT	Connect USB mouse
11	NET	Network (ethernet) port
12	SPOT	Connect to another monitor as an auxiliary output channel. This monitor will only display video and will have no menu access.
13	VIDEO IN	Video input from up to 16 cameras
14	DC +12V	Power input

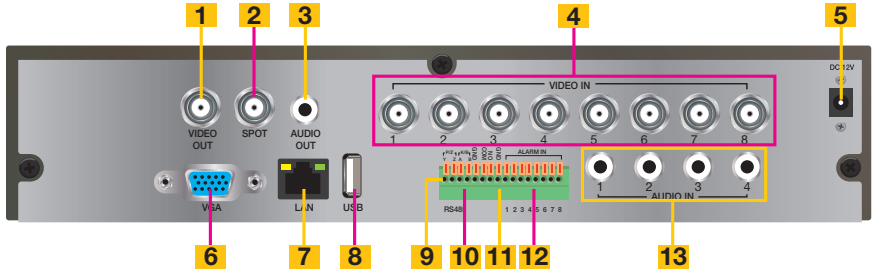
QT428

FRONT PANEL



ITEM	NAME	FUNCTION
1	**RECORD**	Manually begins recording
2	**PLAY**	Launches PLAYBACK window
3	**REW**	Rewind
4	**FF**	Fast Forward
5	**+/MENU**	Increase the value in SETUP/Enter menu in LIVE VIEW
6	**-/BACKUP**	Decrease the value in SETUP/Enter backup mode in LIVE VIEW
7	**STOP/ESC**	Quit PLAYBACK mode/Exit the current window or status Also switches video output mode.
8	**LED INDICATORS**	Show status of power, HDD, record, etc.
9	**IR RECEIVER**	Receives signals from remote control
10	**DIRECTION/ MULTISCREEN**	1. Navigate through on-screen options 2. Change screen display mode between 1, 4, and 9 channels
11	**ENTER**	Confirm selection
12	**USB**	USB port to connect USB flash or external hard drives to update firmware or back up recordings

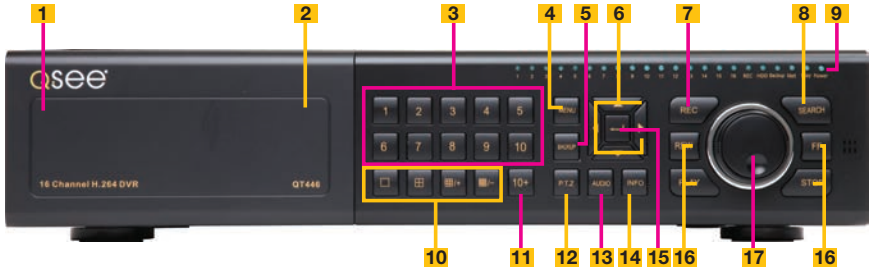
REAR PANEL



ITEM	NAME	FUNCTION
1	**VIDEO OUT**	Video output for connecting to TV (BNC) or monitor
2	**SPOT**	Connect to another monitor as an auxiliary output channel. This monitor will only display video and will have no menu access.
3	**AUDIO OUTPUT**	Connection for audio output – connect to an amplified speaker
4	**VIDEO IN**	Video input from up to 8 cameras
5	**DC +12V**	Power input
6	**VGA PORT**	Video output for connecting to monitor
7	**LAN**	Network (ethernet) port
8	**USB PORT**	Connect USB mouse
9	**RS485**	Connect to Pan-Tilt-Zoom camera to control motion
10	**K/B**	Connect to keyboard
11	**ALARM OUTPUT**	Output for alarm
12	**ALARM IN**	Connect to up to eight external sensors
13	**AUDIO IN**	4-Channel audio input for cameras equipped with audio

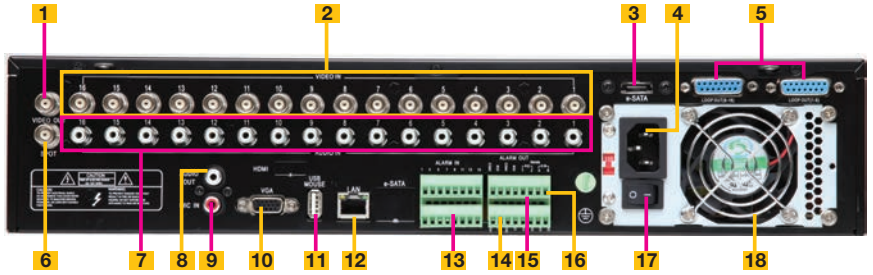
QT446

FRONT PANEL



ITEM	NAME	FUNCTION
1	**POWER** (Behind flip-down panel)	Puts the DVR into standby mode or wakes it up from standby mode.
2	**USB PORT** (Behind flip-down panel)	Used for external USB backup devices.
3	**NUMBER PAD**	Enter channel numbers.
4	**MENU**	Opens the Main Menu
5	**BACKUP**	Opens Backup Menu
6	**DIRECTION**	Navigates through selections in menus
7	**RECORD**	Begins manually recording on all channels
8	**SEARCH**	Enters Search Mode
9	**INDICATOR LIGHTS**	Shows status of the DVR Functions and the Hard Drive
10	**VIEWING MODE**	Change between 1, 4, 8 and 16-screen viewing mode
11	**10+ BUTTON**	Input channels numbers above 10 by pushing this button followed by the second digit.
12	**PTZ**	Enter PTZ mode in live view
13	**AUDIO**	Turn audio on or off in live view if audio input devices are attached.
14	**INFO**	Displays system information
15	**ENTER**	Confirms selection in menus or input in fields
16	**PLAYBACK CONTROLS**	**REW** - Rewind **PLAY** - Opens the Playback interface. Pauses or resumes playback **FF** - Fast Forward **STOP** - Quits Playback mode Also switches video output mode.
17	**CONTROL KNOB**	Outer ring navigates through menus Inner knob increases or decreases speed of fast forward or rewind.

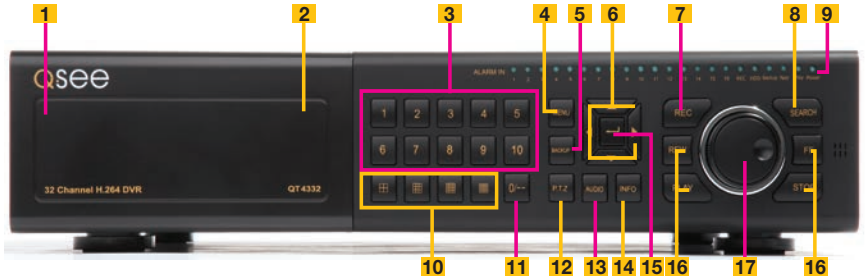
BACK PANEL



ITEM	NAME	FUNCTION
1	**VIDEO OUT**	BNC connector for TV or monitor
2	**VIDEO IN**	BNC connectors for up to 16 cameras
3	**eSATA (2)**	Connection for external eSATA hard drive for backup
4	**POWER SOCKET**	Attachment point for power cord
5	**LOOP OUT (2)**	Output each channel to a separate monitor. Each port handles 8 channels.
6	**SPOT OUT**	Connect to another monitor as an auxiliary output channel. This monitor will only display video and will have no menu access.
7	**AUDIO IN**	16 channels of audio input
8	**AUDIO OUT**	Audio output for amplified speaker
9	**MICROPHONE IN**	Connect a microphone for two-way audio
10	**VGA PORT**	VGA output for 19” or larger monitor
11	**USB PORT**	For the USB mouse
12	**LAN**	Network (ethernet) port
13	**ALARM IN**	Connect up to 16 external sensors
14	**ALARM OUT**	4 Channel relay output for external alarms
15	**PTZ**	Connections for Pan-Tilt-Zoom speed dome cameras. Y = “+” Z = “-”
16	**K/B**	Connector for a PTZ keyboard
17	**POWER SWITCH**	Use to turn on the DVR as well as to turn off after powering down from within the GUI
18	**FAN**	Cooling fan exhaust port. This should not be blocked.

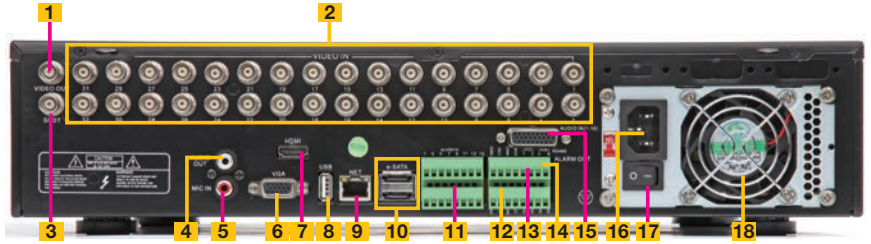
QT4332 QT4532

FRONT PANEL



ITEM	NAME	FUNCTION
1	**POWER** (Behind flip-down panel)	Puts the DVR into standby mode or wakes it up from standby mode.
2	**USB PORT** (Behind flip-down panel)	Used for external USB backup devices.
3	**NUMBER PAD**	Enter channel numbers.
4	**MENU**	Opens the Main Menu
5	**BACKUP**	Opens Backup Menu
6	**DIRECTION**	Navigates through selections in menus
7	**RECORD**	Begins manually recording on all channels
8	**SEARCH**	Enters Search Mode
9	**INDICATOR LIGHTS**	Shows status of the DVR Functions and the Hard Drive
10	**VIEWING MODE**	Change between 1, 4, 8, 16 and 32-screen viewing mode
11	**10+ BUTTON**	Input channels numbers above 10 by pushing this button followed by the second digit.
12	**PTZ**	Enter PTZ mode in live view
13	**AUDIO**	Turn audio on or off in live view if audio input devices are attached.
14	**INFO**	Displays system information
15	**ENTER**	Confirms selection in menus or input in fields
16	**PLAYBACK CONTROLS**	**REW** - Rewind **PLAY** - Opens the Playback interface. Pauses or resumes playback **FF** - Fast Forward **STOP** - Quits Playback mode Also switches video output mode.
17	**CONTROL KNOB**	Outer ring navigates through menus Inner knob increases or decreases speed of fast forward or rewind.

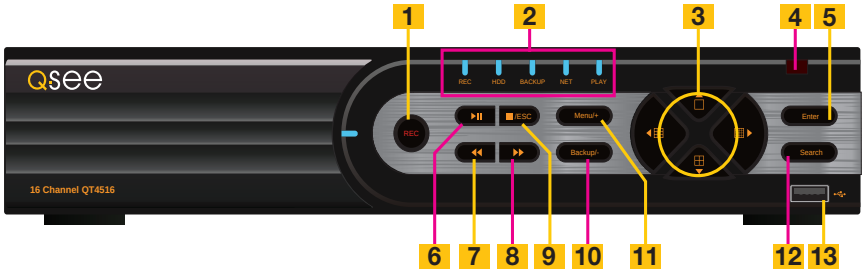
BACK PANEL



ITEM	NAME	FUNCTION
1	**VIDEO OUT**	BNC connector for TV or monitor
2	**VIDEO IN**	BNC connectors for up to 32 cameras
3	**SPOT OUT**	Connect to another monitor as an auxiliary output channel. This monitor will only display video and will have no menu access.
4	**AUDIO OUT**	Audio output for amplified speaker
5	**MICROPHONE IN**	Connect a microphone for two-way audio
6	**VGA PORT**	VGA output for 19" or larger monitor
7	**HDMI**	HDMI video output
8	**USB PORT**	For the USB mouse
9	**LAN**	Network (ethernet) port
10	**eSATA (2)**	Connection for external eSATA hard drive for backup
11	**ALARM IN**	Connect up to 16 external sensors
12	**ALARM OUT**	4 Channel relay output for external alarms
13	**PTZ**	Connections for Pan-Tilt-Zoom speed dome cameras. Y = "+" Z = "-"
14	**K/B**	Connector for a PTZ keyboard
15	**AUDIO IN**	Attachment point for audio dongle which allows up to 16 channels of audio input.
16	**POWER SOCKET**	Attachment point for power cord
17	**POWER SWITCH**	Use to turn on the DVR as well as to turn off after powering down from within the GUI
18	**FAN**	Cooling fan exhaust port. This should not be blocked.

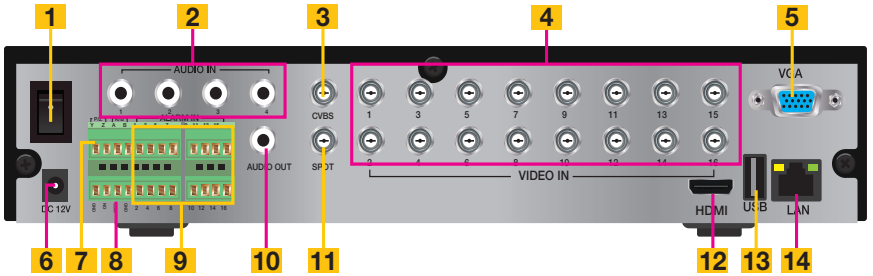
QT4516

FRONT PANEL



ITEM	NAME	FUNCTION
1	**RECORD**	Manually begins recording
2	**LED INDICATORS**	Show status of power, HDD, record, etc.
3	**DIRECTION/ MULTISCREEN**	1. Navigate through on-screen options 2. Change screen display mode between 1, 4, 9 and 16 channels
4	**IR RECEIVER**	Receives signals from remote control
5	**ENTER**	Confirm selection
6	**PLAY/PAUSE**	Launches PLAYBACK window. Starts or pauses video.
7	**REWIND**	Reverses video direction
8	**FAST FORWARD**	Changes playback speed
9	**STOP/ESC**	Quit PLAYBACK mode/Exit the current window or status Switch video output mode. (Press and hold 10 seconds)
10	**-/BACKUP**	Decrease the value in SETUP/Enter backup mode in LIVE VIEW
11	**+/MENU**	Increase the value in SETUP/Enter menu in LIVE VIEW
12	**SEARCH**	Enters Search Mode
13	**USB**	USB port to connect USB flash or external hard drives to update firmware or back up recordings

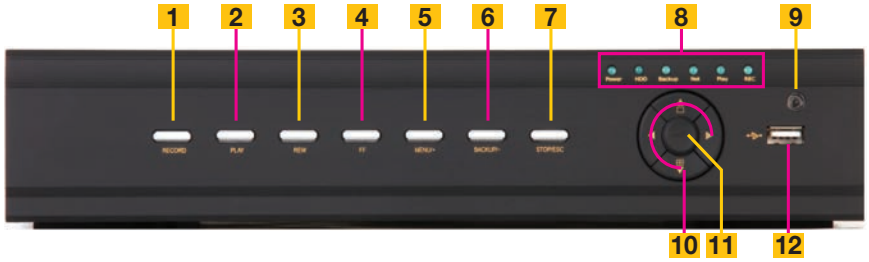
REAR PANEL



ITEM	NAME	FUNCTION
1	**POWER SWITCH**	Use to turn on the DVR as well as to turn off after powering down from within the GUI
2	**AUDIO IN**	4-Channel audio input for cameras equipped with audio
3	**CVBS (Video Out)**	Video output for connecting to TV (BNC) or monitor
4	**VIDEO IN**	Video input from up to 16 cameras
5	**VGA PORT**	Video output for connecting to monitor
6	**DC +12V**	Power input
7	**PTZ**	PTZ camera connection ports
8	**ALARM OUTPUT**	Output for alarm
9	**ALARM IN**	Connect to up to sixteen external sensors
10	**AUDIO OUTPUT**	Connection for audio output – connect to an amplified speaker
11	**SPOT**	Connect to another monitor as an auxiliary output channel. This monitor will only display video and will have no menu access.
12	**HDMI**	HDMI video output
13	**USB PORT**	Connect USB mouse
14	**NET**	Network (ethernet) port

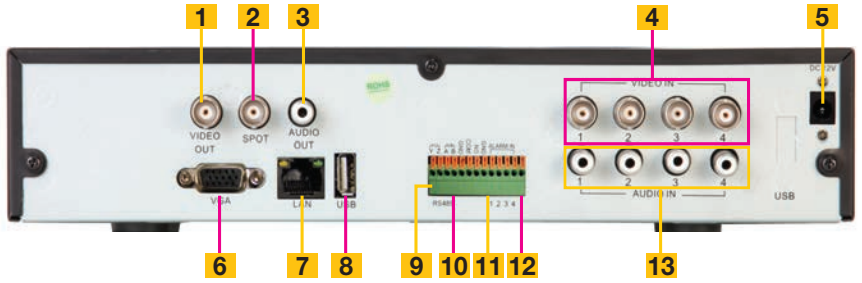
QT504

FRONT PANEL



ITEM	NAME	FUNCTION
1	RECORD	Begins manual recording Controls Focus in PTZ mode
2	PLAY	Begins playback
3	REWIND	Rewinds video Controls camera speed in PTZ mode
4	FAST FORWARD	Advances playback speed
5	MENU/+	Opens the Main Menu Increases the value in Setup mode
6	BACKUP/-	Opens Backup Menu Decreases the value in Setup mode
7	STOP/ESC	Ends video playback. Exits current interface or status Switches video output mode.
8	INDICATOR LIGHTS	Shows status of the DVR Functions and the Hard Drive
9	IR RECEIVER	Receives signals from remote control
10	DIRECTION	Selects multi-screen viewing mode Navigates through selections in menus
11	RETURN	Confirms selection
12	USB PORT	Used for external USB backup devices.

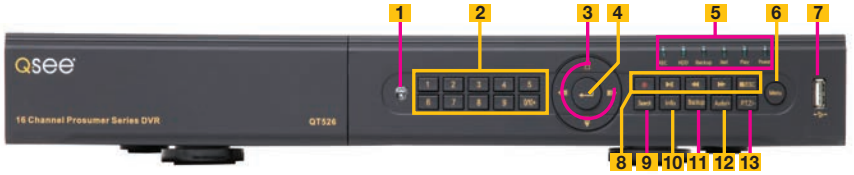
BACK PANEL



ITEM	NAME	FUNCTION
1	VIDEO OUT	BNC connector for TV or monitor
2	SPOT OUT	Connect to another monitor as an auxiliary output channel. This monitor will only display video and will have no menu access.
3	AUDIO OUT	Audio output for amplified speaker
4	VIDEO IN	BNC connectors for up to 4 cameras
5	DC IN	Power input for 12V DC power supply
6	VGA PORT	VGA output for 19” or larger monitor
7	NET	Network (ethernet) port
8	USB PORT	For the USB mouse
9	PTZ	Connections for Pan-Tilt-Zoom speed dome cameras. Y = “+” Z = “-”
10	K/B	Connector for a PTZ keyboard
11	+5V and GND	+5V and grounding
12	ALARM IN/OUT	4 Channel input and output for external sensors and alarms
13	AUDIO IN	4 channels of audio input

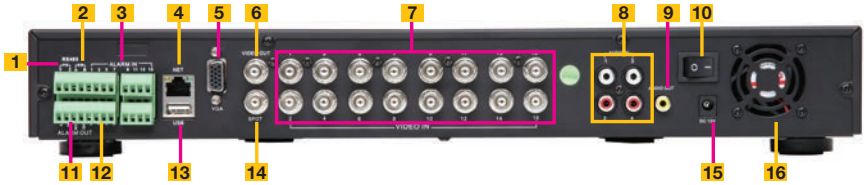
QT526

FRONT PANEL



ITEM	NAME	FUNCTION
1	**IR RECEIVER**	Receives signals from remote control
2	**NUMBER BUTTONS**	Select individual channels for full screen view
3	**DIRECTION**	Selects multi-screen viewing mode Navigates through selections in menus
4	**ENTER**	Confirm Selection
5	**INDICATOR LIGHTS**	Shows status of the DVR Functions and the Hard Drive
6	**MENU**	Opens the Main Menu Increases the value in Setup mode
7	**USB PORT**	Used for external USB backup devices.
8	**PLAYBACK CONTROLS**	In addition to normal DVR playback and record operation, the following have additional functions: **RECORD** Controls Focus in PTZ mode **REVERSE** Controls Speed in PTZ mode **STOP/ESC** Exits current interface or status Also switches video output mode.
9	**SEARCH/ZOOM**	Enter Search mode Controls Zoom function in PTZ mode
10	**INFO**	Displays system information
11	**BACKUP**	Enter Backup mode Decreases the value in Setup mode
12	**AUDIO**	Mutes or unmutes audio
13	**PTZ**	Enter PTZ mode

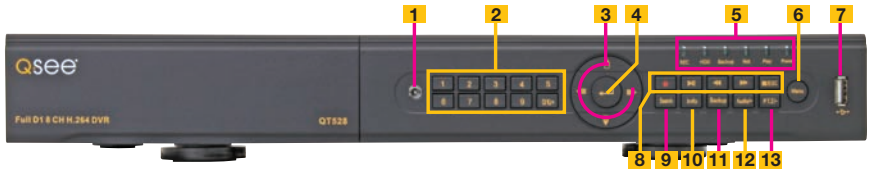
BACK PANEL



ITEM	NAME	FUNCTION
1	**PTZ**	Connections for Pan-Tilt-Zoom speed dome cameras. Y = “+” Z = “-”
2	**K/B**	Connector for a PTZ keyboard
3	**ALARM IN**	Connections for up to 16 external sensors
4	**NET**	Network (ethernet) port
5	**VGA PORT**	VGA output for 19” or larger monitor
6	**VIDEO OUT**	BNC connector for TV or monitor
7	**VIDEO IN**	BNC connectors for up to 16 cameras
8	**AUDIO IN**	4 channels of audio input
9	**AUDIO OUT**	Audio output for amplified speaker
10	**POWER**	Power On/Off
11	**+5V and GND**	+5V and grounding
12	**ALARM OUT**	1 Channel relay output for external alarm
13	**USB PORT**	For the USB mouse
14	**SPOT OUT**	Connect to another monitor as an auxiliary output channel. This monitor will only display video and will have no menu access.
15	**DC IN**	Power input for 12V DC power supply
16	**FAN**	Cooling fan exhaust port. This should not be blocked.

QT528

FRONT PANEL



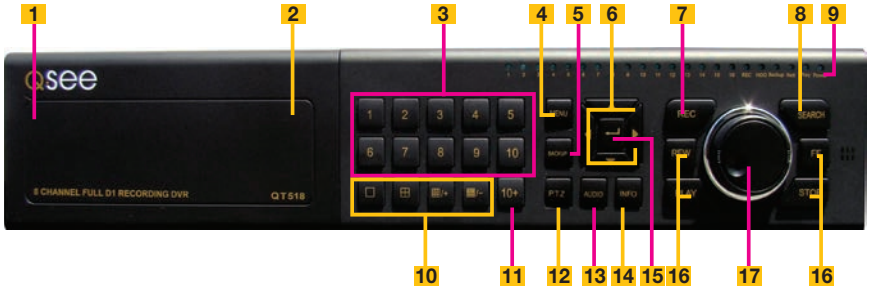
ITEM	NAME	FUNCTION
1	**IR RECEIVER**	Receives signals from remote control
2	**NUMBER BUTTONS**	Select individual channels for full screen view
3	**DIRECTION**	Selects multi-screen viewing mode Navigates through selections in menus
4	**ENTER**	Confirm Selection
5	**INDICATOR LIGHTS**	Shows status of the DVR Functions and the Hard Drive
6	**MENU**	Opens the Main Menu Increases the value in Setup mode
7	**USB PORT**	Used for external USB backup devices.
8	**PLAYBACK CONTROLS**	In addition to normal DVR playback and record operation, the following have additional functions: **RECORD** Controls Focus in PTZ mode **REVERSE** Controls Speed in PTZ mode **STOP/ESC** Exits current interface or status Also switches video output mode.
9	**SEARCH/ZOOM**	Enter Search mode Controls Zoom function in PTZ mode
10	**INFO**	Displays system information
11	**BACKUP**	Enter Backup mode Decreases the value in Setup mode
12	**AUDIO**	Mutes or unmutes audio
13	**PTZ**	Enter PTZ mode

BACK PANEL

ITEM	NAME	FUNCTION
1	**PTZ**	Connections for Pan-Tilt-Zoom speed dome cameras. Y = “+” Z = “-”
2	**K/B**	Connector for a PTZ keyboard
3	**ALARM IN**	Connections for up to 8 external sensors
4	**NET**	Network (ethernet) port
5	**VGA PORT**	VGA output for 19” or larger monitor
6	**VIDEO OUT**	BNC connector for TV or monitor
7	**VIDEO IN**	BNC connectors for up to 8 cameras
8	**AUDIO IN**	4 channels of audio input
9	**AUDIO OUT**	Audio output for amplified speaker
10	**POWER**	Power On/Off
11	**+5V and GND**	+5V and grounding
12	**ALARM OUT**	1 Channel relay output for external alarm
13	**USB PORT**	For the USB mouse
14	**SPOT OUT**	Connect to another monitor as an auxiliary output channel. This monitor will only display video and will have no menu access.
15	**DC IN**	Power input for 12V DC power supply
16	**FAN**	Cooling fan exhaust port. This should not be blocked.

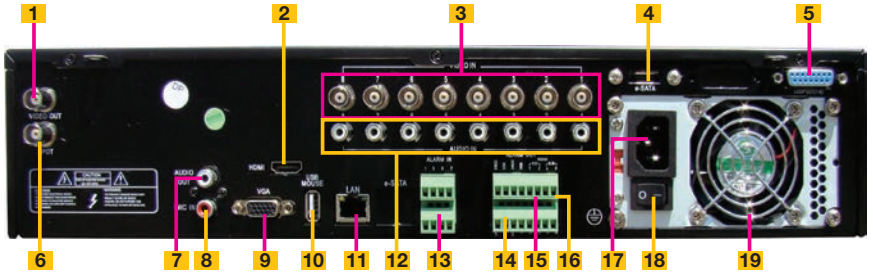
QT518

FRONT PANEL



ITEM	NAME	FUNCTION
1	**POWER** (Behind flip-down panel)	Puts the DVR into standby mode or wakes it up from standby mode.
2	**USB PORT** (Behind flip-down panel)	Used for external USB backup devices.
3	**NUMBER PAD**	Enter channel numbers.
4	**MENU**	Opens the Main Menu
5	**BACKUP**	Opens Backup Menu
6	**DIRECTION**	Navigates through selections in menus
7	**RECORD**	Begins manually recording on all channels
8	**SEARCH**	Enters Search Mode
9	**INDICATOR LIGHTS**	Shows status of the DVR Functions and the Hard Drive
10	**VIEWING MODE**	Change between 1, 4, and 8-screen viewing mode
11	**10+ BUTTON**	Input channels numbers above 10 by pushing this button followed by the second digit.
12	**PTZ**	Enter PTZ mode in live view
13	**AUDIO**	Turn audio on or off in live view if audio input devices are attached.
14	**INFO**	Displays system information
15	**ENTER**	Confirms selection in menus or input in fields
16	**PLAYBACK CONTROLS**	**REW** - Rewind **PLAY** - Opens the Playback interface. Pauses or resumes playback **FF** - Fast Forward **STOP** - Quits Playback mode Also switches video output mode.
17	**CONTROL KNOB**	Outer ring navigates through menus Inner knob increases or decreases speed of fast forward or rewind.

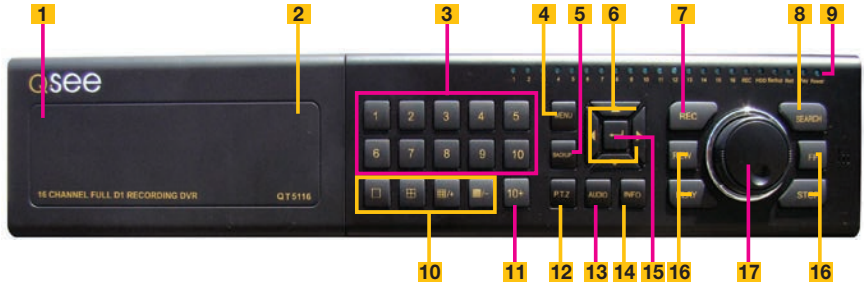
BACK PANEL



ITEM	NAME	FUNCTION
1	**VIDEO OUT**	BNC connector for TV or monitor
2	**HDMI**	HDMI video output
3	**VIDEO IN**	BNC connectors for up to 8 cameras
4	**eSATA**	Connection for external eSATA hard drive for backup
5	**LOOP OUT**	Output each channel to a separate monitor
6	**SPOT OUT**	Connect to another monitor as an auxiliary output channel. This monitor will only display video and will have no menu access.
7	**AUDIO OUT**	Audio output for amplified speaker
8	**MICROPHONE IN**	Connect a microphone for two-way audio
9	**VGA PORT**	VGA output for 19" or larger monitor
10	**USB PORT**	For the USB mouse
11	**LAN**	Network (ethernet) port
12	**AUDIO IN**	8 channels of audio input
13	**ALARM IN**	Connect up to 8 external sensors
14	**ALARM OUT**	4 Channel relay output for external alarms
15	**PTZ**	Connections for Pan-Tilt-Zoom speed dome cameras. Y = "+" Z = "-"
16	**K/B**	Connector for a PTZ keyboard
17	**POWER SOCKET**	Attachment point for power cord
18	**POWER SWITCH**	Use to turn on the DVR as well as to turn off after powering down from within the GUI
19	**FAN**	Cooling fan exhaust port. This should not be blocked.

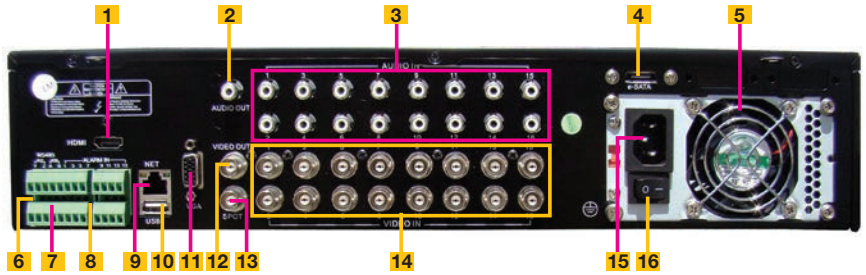
QT5116

FRONT PANEL



ITEM	NAME	FUNCTION
1	**POWER** (Behind flip-down panel)	Puts the DVR into standby mode or wakes it up from standby mode.
2	**USB PORT** (Behind flip-down panel)	Used for external USB backup devices.
3	**NUMBER PAD**	Enter channel numbers.
4	**MENU**	Opens the Main Menu
5	**BACKUP**	Opens Backup Menu
6	**DIRECTION**	Navigates through selections in menus
7	**RECORD**	Begins manually recording on all channels
8	**SEARCH**	Enters Search Mode
9	**INDICATOR LIGHTS**	Shows status of the DVR Functions and the Hard Drive
10	**VIEWING MODE**	Change between 1, 4, 8 and 16-screen viewing mode
11	**10+ BUTTON**	Input channels numbers above 10 by pushing this button followed by the second digit.
12	**PTZ**	Enter PTZ mode in live view
13	**AUDIO**	Turn audio on or off in live view if audio input devices are attached.
14	**INFO**	Displays system information
15	**ENTER**	Confirms selection in menus or input in fields
16	**PLAYBACK CONTROLS**	**REW** - Rewind **PLAY** - Opens the Playback interface. Pauses or resumes playback **FF** - Fast Forward **STOP** - Quits Playback mode Also switches video output mode.
17	**CONTROL KNOB**	Outer ring navigates through menus Inner knob increases or decreases speed of fast forward or rewind.

BACK PANEL



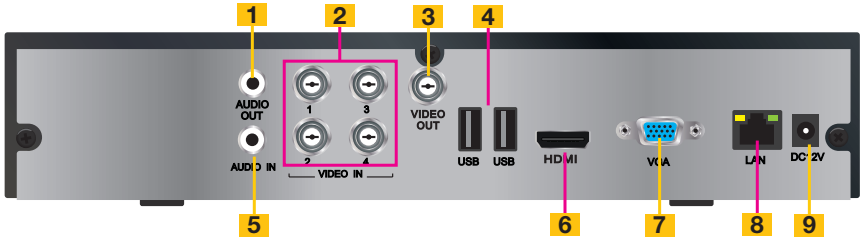
ITEM	NAME	FUNCTION
1	**HDMI**	HDMI video output
2	**AUDIO OUT**	Audio output for amplified speaker
3	**AUDIO IN**	16 channels of audio input
4	**eSATA**	Connection for external eSATA hard drive for backup
5	**FAN**	Cooling fan exhaust port. This should not be blocked.
6	**PTZ**	Connections for Pan-Tilt-Zoom speed dome cameras. Y = “+” Z = “-”
7	**K/B**	Connector for a PTZ keyboard
8	**ALARM IN**	Connect up to 16 external sensors
9	**LAN**	Network (ethernet) port
10	**USB PORT**	For the USB mouse
11	**VGA PORT**	VGA output for 19” or larger monitor
12	**VIDEO OUT**	BNC connector for TV or monitor
13	**SPOT OUT**	Connect to another monitor as an auxiliary output channel. This monitor will only display video and will have no menu access.
14	**VIDEO IN**	BNC connectors for up to 16 cameras
15	**POWER SOCKET**	Attachment point for power cord
16	**POWER SWITCH**	Use to turn on the DVR as well as to turn off after powering down from within the GUI

QT534

FRONT PANEL

ITEM	NAME	FUNCTION
1	**INDICATOR LIGHTS**	Shows the recording, network and power status of the DVR.
2	**INFRARED WINDOW**	Receives signals from the remote control
3	**VIDEO MODE BUTTON**	Press and hold 10 seconds (or until you hear a beep) to switch video output from the VGA port (default) to the BNC video out port.

REAR PANEL



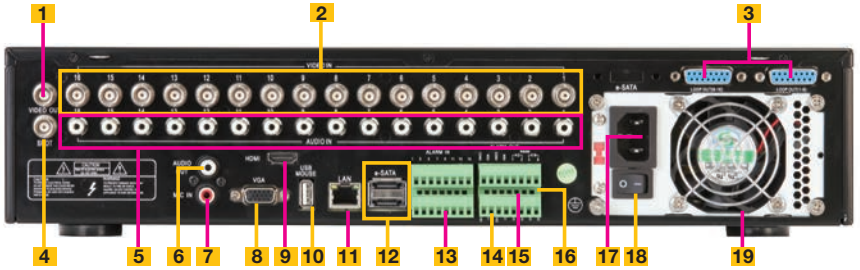
ITEM	NAME	FUNCTION
1	**AUDIO OUT**	RCA audio output for amplified speaker
2	**VIDEO IN**	Video input from up to 4 cameras
3	**VIDEO OUT**	BNC connector for TV or monitor
4	**USB PORTS**	For the USB mouse and external USB backup devices
5	**AUDIO IN**	1 Channel of audio input
6	**HDMI**	HDMI video output
7	**VGA PORT**	VGA output for 19” or larger monitor
8-	**LAN**	Network (ethernet) port)
9	**DC IN**	Power input for 12V DC power supply

QT536

FRONT PANEL

ITEM	NAME	FUNCTION
1	**POWER** (Behind flip-down panel)	Puts the DVR into standby mode or wakes it up from standby mode.
2	**USB PORT** (Behind flip-down panel)	Used for external USB backup devices.
3	**NUMBER PAD**	Enter channel numbers.
4	**MENU**	Opens the Main Menu
5	**BACKUP**	Opens Backup Menu
6	**DIRECTION**	Navigates through selections in menus
7	**RECORD**	Begins manually recording on all channels
8	**SEARCH**	Enters Search Mode
9	**INDICATOR LIGHTS**	Shows status of the DVR Functions and the Hard Drive
10	**VIEWING MODE**	Change between 1, 4, 8 and 16-screen viewing mode
11	**10+ BUTTON**	Input channels numbers above 10 by pushing this button followed by the second digit.
12	**PTZ**	Enter PTZ mode in live view
13	**AUDIO**	Turn audio on or off in live view if audio input devices are attached.
14	**INFO**	Displays system information
15	**ENTER**	Confirms selection in menus or input in fields
16	**PLAYBACK CONTROLS**	**REW** - Rewind **PLAY** - Opens the Playback interface. Pauses or resumes playback **FF** - Fast Forward **STOP** - Quits Playback mode Also switches video output mode.
17	**CONTROL KNOB**	Outer ring navigates through menus Inner knob increases or decreases speed of fast forward or rewind.

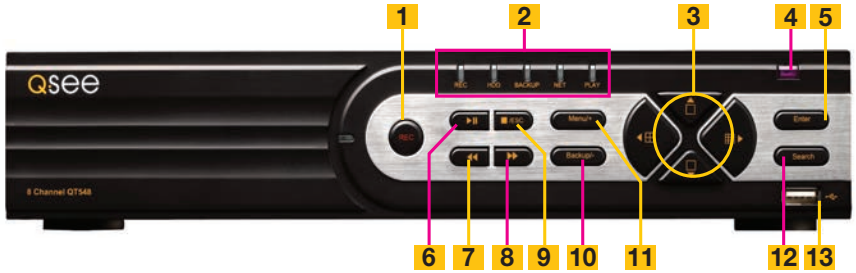
BACK PANEL



ITEM	NAME	FUNCTION
1	**VIDEO OUT**	BNC connector for TV or monitor
2	**VIDEO IN**	BNC connectors for up to 16 cameras
3	**LOOP OUT (2)**	Output each channel to a separate monitor. Each port handles 8 channels.
4	**SPOT OUT**	Connect to another monitor as an auxiliary output channel. This monitor will only display video and will have no menu access.
5	**AUDIO IN**	16 channels of audio input
6	**AUDIO OUT**	Audio output for amplified speaker
7	**MICROPHONE IN**	Connect a microphone for two-way audio
8	**VGA PORT**	VGA output for 19" or larger monitor
9	**HDMI**	HDMI video output
10	**USB PORT**	For the USB mouse
11	**LAN**	Network (ethernet) port
12	**eSATA (2)**	Connection for external eSATA hard drive for backup
13	**ALARM IN**	Connect up to 16 external sensors
14	**ALARM OUT**	4 Channel relay output for external alarms
15	**PTZ**	Connections for Pan-Tilt-Zoom speed dome cameras. Y = "+" Z = "-"
16	**K/B**	Connector for a PTZ keyboard
17	**POWER SOCKET**	Attachment point for power cord
18	**POWER SWITCH**	Use to turn on the DVR as well as to turn off after powering down from within the GUI
19	**FAN**	Cooling fan exhaust port. This should not be blocked.

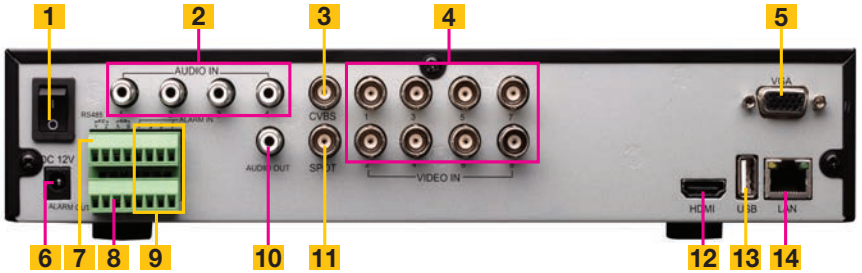
QT548 & QT578

FRONT PANEL



ITEM	NAME	FUNCTION
1	**RECORD**	Manually begins recording
2	**LED INDICATORS**	Show status of power, HDD, record, etc.
3	**DIRECTION/ MULTISCREEN**	1. Navigate through on-screen options 2. Change screen display mode between 1, 4, and 9 channels
4	**IR RECEIVER**	Receives signals from remote control
5	**ENTER**	Confirm selection
6	**PLAY/PAUSE**	Launches PLAYBACK window. Starts or pauses video.
7	**REWIND**	Reverses video direction
8	**FAST FORWARD**	Changes playback speed
9	**STOP/ESC**	Quit PLAYBACK mode/Exit the current window or status Switch video output mode. (Press and hold 10 seconds)
10	**-/BACKUP**	Decrease the value in SETUP/Enter backup mode in LIVE VIEW
11	**+/MENU**	Increase the value in SETUP/Enter menu in LIVE VIEW
12	**SEARCH**	Enters Search Mode
13	**USB**	USB port to connect USB flash or external hard drives to update firmware or back up recordings

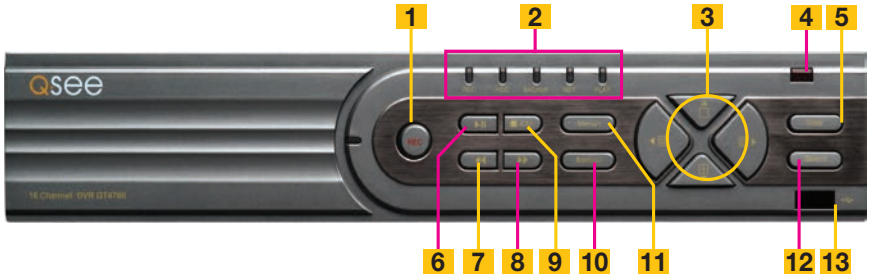
REAR PANEL



ITEM	NAME	FUNCTION
1	**POWER SWITCH**	Use to turn on the DVR as well as to turn off after powering down from within the GUI
2	**AUDIO IN**	4-Channel audio input for cameras equipped with audio
3	**CVBS (Video Out)**	Video output for connecting to TV (BNC) or monitor
4	**VIDEO IN**	Video input from up to 8 cameras
5	**VGA PORT**	Video output for connecting to monitor
6	**DC +12V**	Power input
7	**PTZ**	PTZ camera connection ports
8	**ALARM OUTPUT**	Output for alarm
9	**ALARM IN**	Connect to up to 8 external sensors
10	**AUDIO OUTPUT**	Connection for audio output – connect to an amplified speaker
11	**SPOT**	Connect to another monitor as an auxiliary output channel. This monitor will only display video and will have no menu access.
12	**HDMI**	HDMI video output
13	**USB PORT**	Connect USB mouse
14	**NET**	Network (ethernet) port

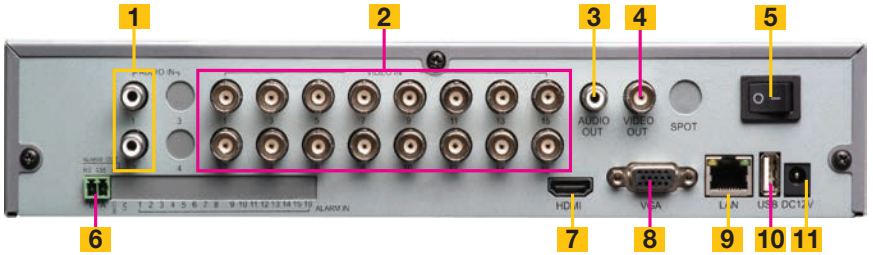
QT4760

FRONT PANEL



ITEM	NAME	FUNCTION
1	**RECORD**	Manually begins recording
2	**LED INDICATORS**	Show status of power, HDD, record, etc.
3	**DIRECTION/ MULTISCREEN**	1. Navigate through on-screen options 2. Change screen display mode between 1, 4, and 9 channels
4	**IR RECEIVER**	Receives signals from remote control
5	**ENTER**	Confirm selection
6	**PLAY/PAUSE**	Launches PLAYBACK window. Starts or pauses video.
7	**REWIND**	Reverses video direction
8	**FAST FORWARD**	Changes playback speed
9	**STOP/ESC**	Quit PLAYBACK mode/Exit the current window or status Switch video output mode. (Press and hold 10 seconds)
10	**-/BACKUP**	Decrease the value in SETUP/Enter backup mode in LIVE VIEW
11	**+/MENU**	Increase the value in SETUP/Enter menu in LIVE VIEW
12	**SEARCH**	Enters Search Mode
13	**USB**	USB port to connect USB flash or external hard drives to update firmware or back up recordings

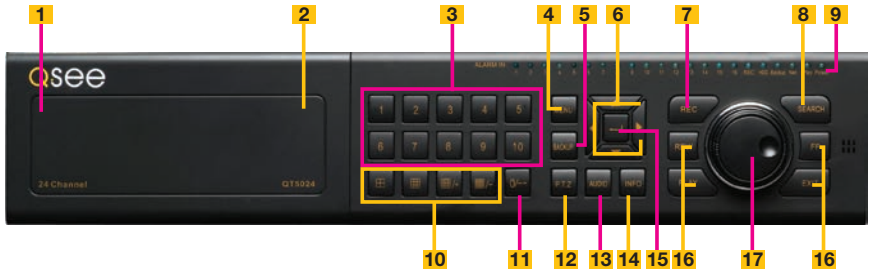
REAR PANEL



ITEM	NAME	FUNCTION
1	**AUDIO IN**	2-Channel audio input for cameras equipped with audio or microphones
2	**VIDEO IN**	Video input from up to 16 cameras
3	**AUDIO OUT**	Connection for audio output – connect to an amplified speaker
4	**VIDEO OUT**	Video output for connecting to TV (BNC) or monitor
5	**POWER SWITCH**	Use to turn on the DVR as well as to turn off after powering down from within the GUI
6	**PTZ**	PTZ camera connection ports
7	**HDMI**	HDMI video output
8	**VGA PORT**	Video output for connecting to monitor
9	**NET**	Network (ethernet) port
10	**USB PORT**	Connect USB mouse
11	**DC +12V**	Power input

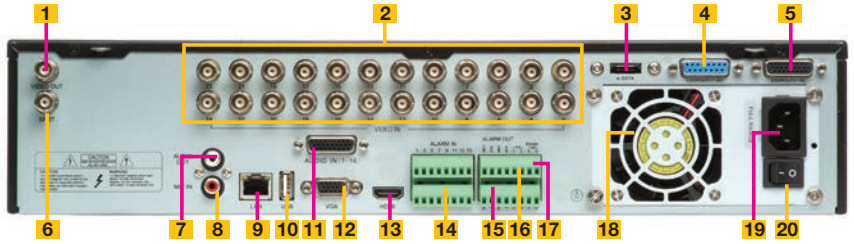
QT5024

FRONT PANEL



ITEM	NAME	FUNCTION
1	**POWER** (Behind flip-down panel)	Puts the DVR into standby mode or wakes it up from standby mode.
2	**USB PORT** (Behind flip-down panel)	Used for external USB backup devices.
3	**NUMBER PAD**	Enter channel numbers.
4	**MENU**	Opens the Main Menu
5	**BACKUP**	Opens Backup Menu
6	**DIRECTION**	Navigates through selections in menus
7	**RECORD**	Begins manually recording on all channels
8	**SEARCH**	Enters Search Mode
9	**INDICATOR LIGHTS**	Shows status of the DVR Functions and the Hard Drive
10	**VIEWING MODE**	Change between 1, 4, 8 and 16-screen viewing mode
11	**10+ BUTTON**	Input channels numbers above 10 by pushing this button followed by the second digit.
12	**PTZ**	Enter PTZ mode in live view
13	**AUDIO**	Turn audio on or off in live view if audio input devices are attached.
14	**INFO**	Displays system information
15	**ENTER**	Confirms selection in menus or input in fields
16	**PLAYBACK CONTROLS**	**REW** - Rewind **PLAY** - Opens the Playback interface. Pauses or resumes playback **FF** - Fast Forward **STOP** - Quits Playback mode Also switches video output mode.
17	**CONTROL KNOB**	Outer ring navigates through menus Inner knob increases or decreases speed of fast forward or rewind.

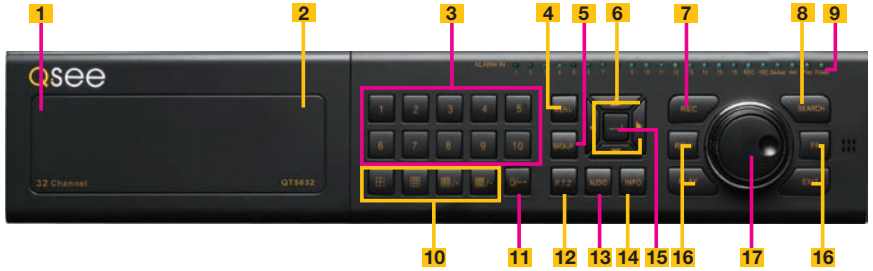
BACK PANEL



ITEM	NAME	FUNCTION
1	**VIDEO OUT**	BNC connector for TV or monitor
2	**VIDEO IN**	BNC connectors for up to 24 cameras
3	**eSATA**	Connection for external eSATA hard drive for backup
4	**LOOP OUT**	Output each channel to a separate monitor. This port handles Channels 17-24.
5	**LOOP OUT**	Output each channel to a separate monitor. This port handles Channels 1-16.
6	**SPOT OUT**	Connect to another monitor as an auxiliary output channel. This monitor will only display video and will have no menu access.
7	**AUDIO OUT**	Audio output for amplified speaker
8	**MICROPHONE IN**	Connect a microphone for two-way audio
9	**LAN**	Network (ethernet) port
10	**USB PORT**	For the USB mouse
11	**AUDIO IN**	16 channels of audio input
12	**VGA PORT**	VGA output for 19” or larger monitor
13	**HDMI**	HDMI video output
14	**ALARM IN**	Connect up to 16 external sensors
15	**ALARM OUT**	4 Channel relay output for external alarms
16	**PTZ**	Connections for Pan-Tilt-Zoom speed dome cameras. Y = “+” Z = “-”
17	**K/B**	Connector for a PTZ keyboard
18	**FAN**	Cooling fan exhaust port. This should not be blocked.
19	**POWER SOCKET**	Attachment point for power cord
20	**POWER SWITCH**	Use to turn on the DVR as well as to turn off after powering down from within the GUI

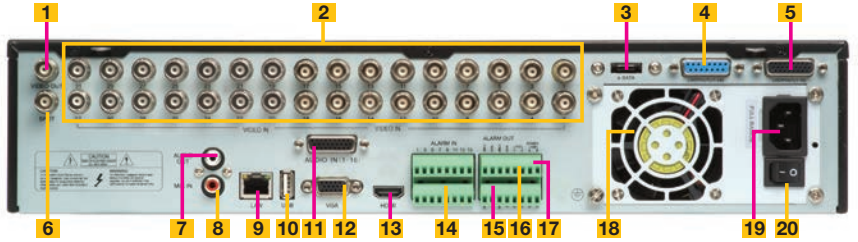
QT5032

FRONT PANEL



ITEM	NAME	FUNCTION
1	**POWER** (Behind flip-down panel)	Puts the DVR into standby mode or wakes it up from standby mode.
2	**USB PORT** (Behind flip-down panel)	Used for external USB backup devices.
3	**NUMBER PAD**	Enter channel numbers.
4	**MENU**	Opens the Main Menu
5	**BACKUP**	Opens Backup Menu
6	**DIRECTION**	Navigates through selections in menus
7	**RECORD**	Begins manually recording on all channels
8	**SEARCH**	Enters Search Mode
9	**INDICATOR LIGHTS**	Shows status of the DVR Functions and the Hard Drive
10	**VIEWING MODE**	Change between 1, 4, 8 and 16-screen viewing mode
11	**10+ BUTTON**	Input channels numbers above 10 by pushing this button followed by the second digit.
12	**PTZ**	Enter PTZ mode in live view
13	**AUDIO**	Turn audio on or off in live view if audio input devices are attached.
14	**INFO**	Displays system information
15	**ENTER**	Confirms selection in menus or input in fields
16	**PLAYBACK CONTROLS**	**REW** - Rewind **PLAY** - Opens the Playback interface. Pauses or resumes playback **FF** - Fast Forward **STOP** - Quits Playback mode Also switches video output mode.
17	**CONTROL KNOB**	Outer ring navigates through menus Inner knob increases or decreases speed of fast forward or rewind.

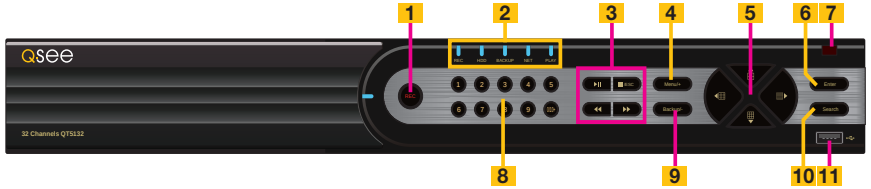
BACK PANEL



ITEM	NAME	FUNCTION
1	**VIDEO OUT**	BNC connector for TV or monitor
2	**VIDEO IN**	BNC connectors for up to 32 cameras
3	**eSATA**	Connection for external eSATA hard drive for backup
4	**LOOP OUT**	Output each channel to a separate monitor. This port handles Channels 17-32.
5	**LOOP OUT**	Output each channel to a separate monitor. This port handles Channels 1-16.
6	**SPOT OUT**	Connect to another monitor as an auxiliary output channel. This monitor will only display video and will have no menu access.
7	**AUDIO OUT**	Audio output for amplified speaker
8	**MICROPHONE IN**	Connect a microphone for two-way audio
9	**LAN**	Network (ethernet) port
10	**USB PORT**	For the USB mouse
11	**AUDIO IN**	16 channels of audio input
12	**VGA PORT**	VGA output for 19" or larger monitor
13	**HDMI**	HDMI video output
14	**ALARM IN**	Connect up to 16 external sensors
15	**ALARM OUT**	4 Channel relay output for external alarms
16	**PTZ**	Connections for Pan-Tilt-Zoom speed dome cameras. Y = "+" Z = "-"
17	**K/B**	Connector for a PTZ keyboard
18	**FAN**	Cooling fan exhaust port. This should not be blocked.
19	**POWER SOCKET**	Attachment point for power cord
20	**POWER SWITCH**	Use to turn on the DVR as well as to turn off after powering down from within the GUI

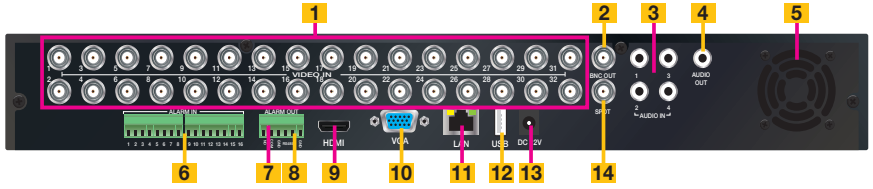
QT5132

FRONT PANEL



ITEM	NAME	FUNCTION
1	**RECORD**	Manually begins recording
2	**LED INDICATORS**	Show status of power, HDD, record, etc.
3	**VIDEO PLAYBACK CONTROLS**	PLAY/PAUSE - Launches PLAYBACK window, Starts and pauses video. STOP/ESC - Quits PLAYBACK mode. Exits current window Switches video output mode (press and hold 10 seconds) REWIND - Reverses playback direction FAST FORWARD - Changes playback speed.
4	**MENU/+**	Increase the value in SETUP/Enter menu in LIVE VIEW
5	**DIRECTION/ MULTISCREEN**	1. Navigate through on-screen options 2. Change screen display mode between 1, and 4 channels
6	**ENTER**	Confirm selection
7	**IR RECEIVER**	Receives signals from remote control
8	**NUMBER PAD**	Enter channel numbers.
9	**-/BACKUP**	Decrease the value in SETUP/Enter backup mode in LIVE VIEW
10	**SEARCH**	Enters Search Mode
11	**USB**	USB port to connect USB flash or external hard drives to update firmware or back up recordings

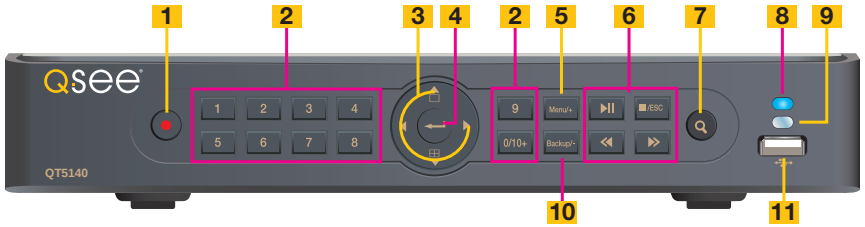
BACK PANEL



ITEM	NAME	FUNCTION
1	**VIDEO IN**	Video input from up to 32 cameras
2	**BNC OUT**	Video output for connecting to TV (BNC) or monitor
3	**AUDIO IN**	4-Channel audio input for cameras equipped with audio, or for separate microphones
4	**AUDIO OUT**	Connection for audio output – connect to an amplified speaker
5	**FAN**	Cooling fan exhaust port. This should not be blocked.
6	**ALARM IN**	Input ports for 16 alarms.
7	**ALARM OUT**	One output port for external alarm
8	**PTZ RS485 BLOCK**	Connections for Pan-Tilt-Zoom speed dome cameras. Y = “+” Z = “-”
9	**HDMI**	HDMI video output
10	**VGA PORT**	Video output for connecting to monitor at least 19” in size
11	**LAN**	Network (ethernet) port
12	**USB PORT**	Connect USB mouse
13	**DC +12V**	Power input
14	**SPOT OUT**	Connect to another monitor as an auxiliary output channel. This monitor will only display video and will have no menu access.

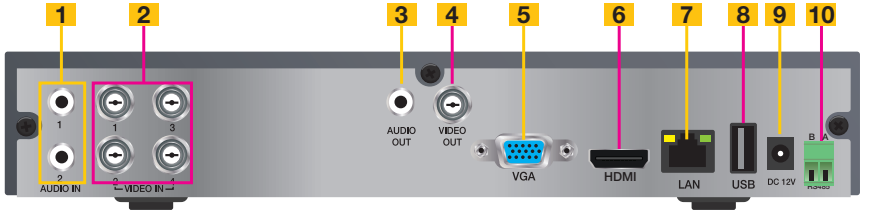
QT5140 & QT5440

FRONT PANEL



ITEM	NAME	FUNCTION
1	**POWER**	Power On/Off
2	**NUMBER BUTTONS**	Select individual channels and enter data where required
3	**DIRECTION**	Navigates through selections in menus Selects viewing mode - Full Screen or 4-Channel Multi-Screen View
4	**ENTER**	Confirm Selection
5	**MENU**	Opens the Main Menu Increases the value in Setup mode
6	**PLAYBACK CONTROLS**	In addition to normal DVR playback and record operation, the following have additional functions: RECORD Controls Focus in PTZ mode REVERSE Controls Speed in PTZ mode STOP/ESC Exits current interface or status Also switches video output mode.
7	**SEARCH/ ZOOM**	Enter Search mode Controls Zoom function in PTZ mode
8	**INDICATOR LIGHT**	Shows power status of the DVR
9	**INFRARED WINDOW**	Receives signals from the remote control
10	**BACKUP**	Enter Backup mode Decreases the value in Setup mode
11	**USB PORT**	Used for external USB backup devices.

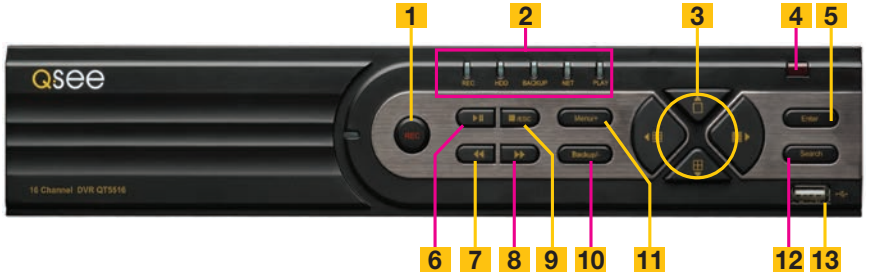
REAR PANEL



ITEM	NAME	FUNCTION
1	**AUDIO IN**	2 Channels of audio input
2	**VIDEO IN**	Video input from up to 4 cameras
3	**AUDIO OUT**	Audio output for amplified speaker
4	**VIDEO OUT**	BNC connector for TV or monitor
5	**VGA PORT**	VGA output for 19” or larger monitor
6	**HDMI**	HDMI video output
7	**LAN**	Network (ethernet) port
8	**USB PORT**	Connect USB mouse
9	**DC IN**	Power input for 12V DC power supply
10	**PTZ**	Connections for Pan-Tilt-Zoom speed dome cameras. A = “+” B = “-”

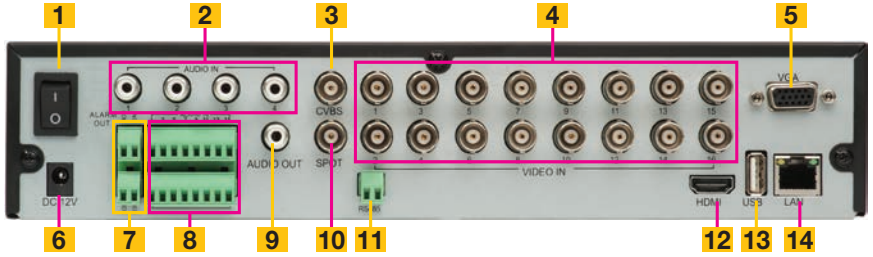
QT5516 & QT5616

FRONT PANEL



ITEM	NAME	FUNCTION
1	RECORD	Manually begins recording
2	LED INDICATORS	Show status of power, HDD, record, etc.
3	DIRECTION/ MULTISCREEN	1. Navigate through on-screen options 2. Change screen display mode between 1, 4, and 9 channels
4	IR RECEIVER	Receives signals from remote control
5	ENTER	Confirm selection
6	PLAY/PAUSE	Launches PLAYBACK window. Starts or pauses video.
7	REWIND	Reverses video direction
8	FAST FORWARD	Changes playback speed
9	STOP/ESC	Quit PLAYBACK mode/Exit the current window or status Switch video output mode. (Press and hold 10 seconds)
10	-/BACKUP	Decrease the value in SETUP/Enter backup mode in LIVE VIEW
11	+/MENU	Increase the value in SETUP/Enter menu in LIVE VIEW
12	SEARCH	Enters Search Mode
13	USB	USB port to connect USB flash or external hard drives to update firmware or back up recordings

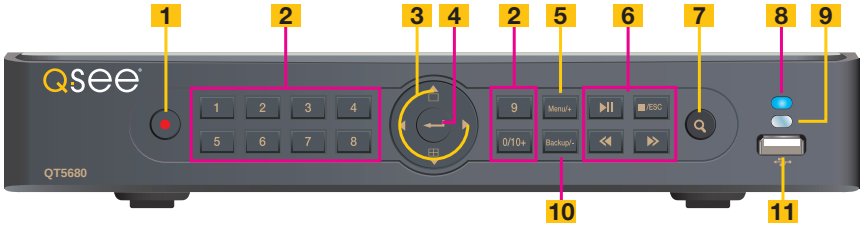
REAR PANEL



ITEM	NAME	FUNCTION
1	POWER SWITCH	Use to turn on the DVR as well as to turn off after powering down from within the GUI
2	AUDIO IN	4-Channel audio input for cameras equipped with audio or microphones
3	VIDEO OUT	Video output for connecting to TV (BNC) or monitor
4	VIDEO IN	Video input from up to 16 cameras
5	VGA PORT	Video output for connecting to monitor
6	DC +12V	Power input
7	ALARM OUTPUT	Output for alarm
8	ALARM IN	Connect to up to 16 external sensors
9	AUDIO OUT	Connection for audio output – connect to an amplified speaker
10	SPOT	Connect to another monitor as an auxiliary output channel. This monitor will only display video and will have no menu access.
11	PTZ	PTZ camera connection ports
12	HDMI	HDMI video output
13	USB PORT	Connect USB mouse
14	NET	Network (ethernet) port

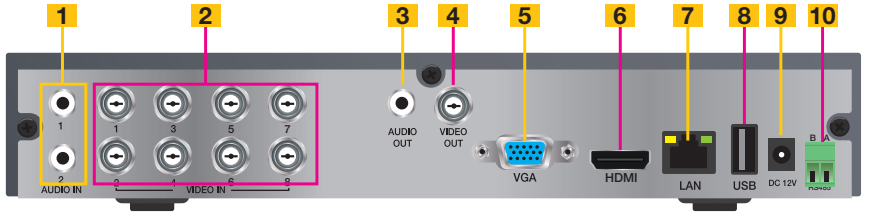
QT5680

FRONT PANEL



ITEM	NAME	FUNCTION
1	**RECORD**	Manually begins recording
2	**NUMBER BUTTONS**	Select individual channels and enter data where required
3	**DIRECTION**	Navigates through selections in menus Selects viewing mode - Full Screen or 4-Channel Multi-Screen View
4	**ENTER**	Confirm Selection
5	**MENU**	Opens the Main Menu Increases the value in Setup mode
6	**PLAYBACK CONTROLS**	In addition to normal DVR playback and record operation, the following have additional functions: RECORD Controls Focus in PTZ mode REVERSE Controls Speed in PTZ mode STOP/ESC Exits current interface or status Also switches video output mode.
7	**SEARCH/ ZOOM**	Enter Search mode Controls Zoom function in PTZ mode
8	**INDICATOR LIGHT**	Shows power status of the DVR
9	**INFRARED WINDOW**	Receives signals from the remote control
10	**BACKUP**	Enter Backup mode Decreases the value in Setup mode
11	**USB PORT**	Used for external USB backup devices.

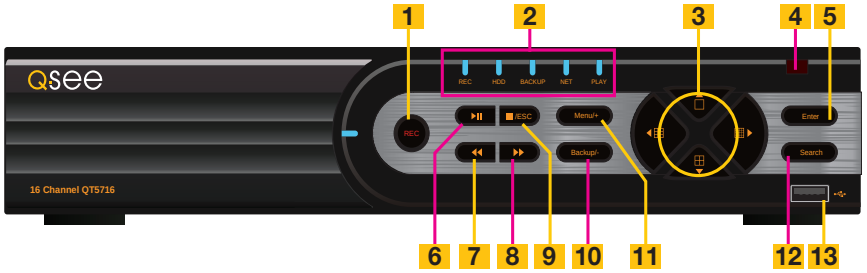
REAR PANEL



ITEM	NAME	FUNCTION
1	**AUDIO IN**	2 Channels of audio input
2	**VIDEO IN**	Video input from up to 8 cameras
3	**AUDIO OUT**	Audio output for amplified speaker
4	**VIDEO OUT**	BNC connector for TV or monitor
5	**VGA PORT**	VGA output for 19” or larger monitor
6	**HDMI**	HDMI video output
7	**LAN**	Network (ethernet) port
8	**USB PORT**	Connect USB mouse
9	**DC IN**	Power input for 12V DC power supply
10	**PTZ**	Connections for Pan-Tilt-Zoom speed dome cameras. A = “+” B = “-”

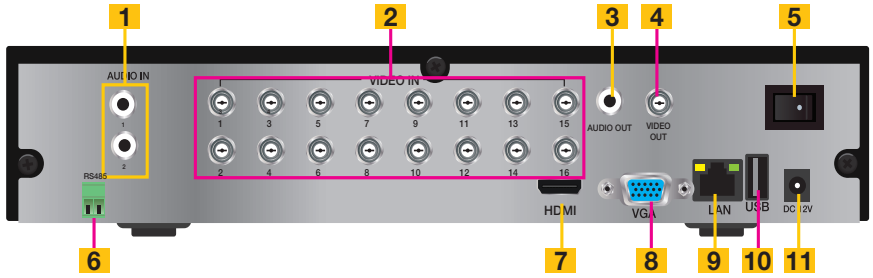
QT5716

FRONT PANEL



ITEM	NAME	FUNCTION
1	**RECORD**	Manually begins recording
2	**LED INDICATORS**	Show status of power, HDD, record, etc.
3	**DIRECTION/ MULTISCREEN**	1. Navigate through on-screen options 2. Change screen display mode between 1, 4, 9 and 16 channels
4	**IR RECEIVER**	Receives signals from remote control
5	**ENTER**	Confirm selection
6	**PLAY/PAUSE**	Launches PLAYBACK window. Starts or pauses video.
7	**REWIND**	Reverses video direction
8	**FAST FORWARD**	Changes playback speed
9	**STOP/ESC**	Quit PLAYBACK mode/Exit the current window or status Switch video output mode. (Press and hold 10 seconds)
10	**-/BACKUP**	Decrease the value in SETUP/Enter backup mode in LIVE VIEW
11	**+/MENU**	Increase the value in SETUP/Enter menu in LIVE VIEW
12	**SEARCH**	Enters Search Mode
13	**USB**	USB port to connect USB flash or external hard drives to update firmware or back up recordings

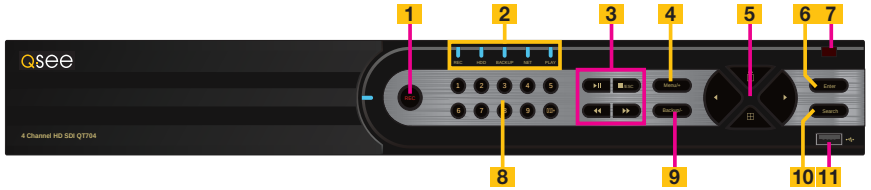
REAR PANEL



ITEM	NAME	FUNCTION
1	**AUDIO IN**	2-Channel audio input for cameras equipped with audio
2	**VIDEO IN**	Video input from up to 16 cameras
3	**AUDIO OUTPUT**	Connection for audio output – connect to an amplified speaker
4	**VIDEO OUT**	Video output for connecting to TV (BNC) or monitor
5	**POWER SWITCH**	Use to turn on the DVR as well as to turn off after powering down from within the GUI
6	**RS-485 (PTZ)**	PTZ camera connection ports
7	**HDMI**	HDMI video output
8	**VGA PORT**	Video output for connecting to monitor
9	**NET**	Network (ethernet) port
10	**USB PORT**	Connect USB mouse
11	**DC +12V**	Power input

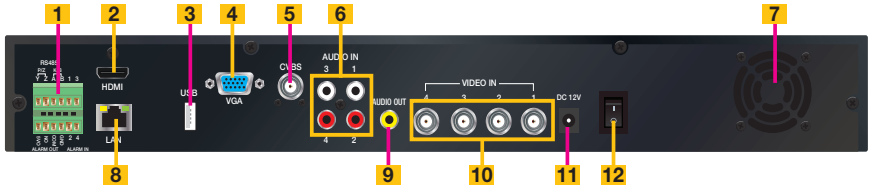
QT704 QT714

FRONT PANEL



ITEM	NAME	FUNCTION
1	RECORD	Manually begins recording
2	LED INDICATORS	Show status of power, HDD, record, etc.
3	VIDEO PLAYBACK CONTROLS	PLAY/PAUSE - Launches PLAYBACK window, Starts and pauses video. STOP/ESC - Quits PLAYBACK mode. Exits current window Switches video output mode (press and hold 10 seconds) REWIND - Reverses playback direction FAST FORWARD - Changes playback speed.
4	MENU/+	Increase the value in SETUP/Enter menu in LIVE VIEW
5	DIRECTION/ MULTISCREEN	1. Navigate through on-screen options 2. Change screen display mode between 1, and 4 channels
6	ENTER	Confirm selection
7	IR RECEIVER	Receives signals from remote control
8	NUMBER PAD	Enter channel numbers.
9	-/BACKUP	Decrease the value in SETUP/Enter backup mode in LIVE VIEW
10	SEARCH	Enters Search Mode
11	USB	USB port to connect USB flash or external hard drives to update firmware or back up recordings

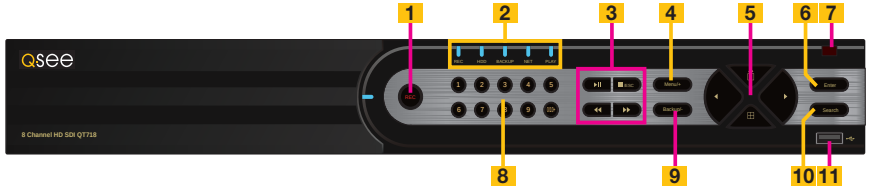
REAR PANEL



ITEM	NAME	FUNCTION
1	PTZ & ALARM INTERFACE	Connections for Pan-Tilt-Zoom speed dome cameras. Y = "+" Z = "-" Input ports for 4 alarms. One output port for external alarm
2	HDMI	HDMI video output
3	USB PORT	Connect USB mouse
4	VGA PORT	Video output for connecting to monitor at least 19" in size
5	CVBS (Video Out)	Video output for connecting to TV (BNC) or monitor
6	AUDIO IN	4-Channel audio input for cameras equipped with audio
7	FAN	Cooling fan exhaust port. This should not be blocked.
8	LAN	Network (ethernet) port
9	AUDIO OUTPUT	Connection for audio output – connect to an amplified speaker
10	VIDEO IN	Video input from up to 4 HD SDI cameras
11	DC +12V	Power input
12	POWER SWITCH	Use to turn on the DVR as well as to turn off after powering down from within the GUI

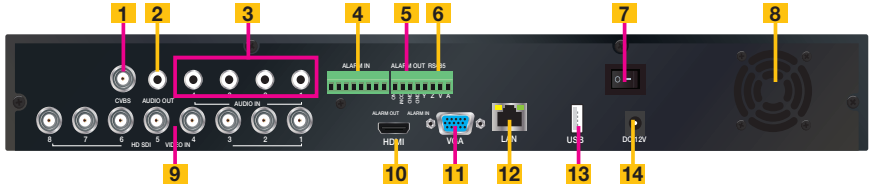
QT718

FRONT PANEL



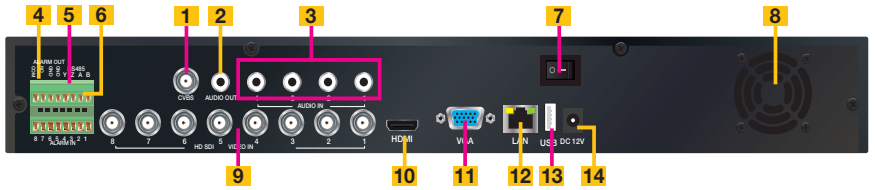
ITEM	NAME	FUNCTION
1	**RECORD**	Manually begins recording
2	**LED INDICATORS**	Show status of power, HDD, record, etc.
3	**VIDEO PLAYBACK CONTROLS**	PLAY/PAUSE - Launches PLAYBACK window, Starts and pauses video. STOP/ESC - Quits PLAYBACK mode. Exits current window Switches video output mode (press and hold 10 seconds) REWIND - Reverses playback direction FAST FORWARD - Changes playback speed.
4	**MENU/+**	Increase the value in SETUP/Enter menu in LIVE VIEW
5	**DIRECTION/ MULTISCREEN**	1. Navigate through on-screen options 2. Change screen display mode between 1, and 4 channels
6	**ENTER**	Confirm selection
7	**IR RECEIVER**	Receives signals from remote control
8	**NUMBER PAD**	Enter channel numbers.
9	**-/BACKUP**	Decrease the value in SETUP/Enter backup mode in LIVE VIEW
10	**SEARCH**	Enters Search Mode
11	**USB**	USB port to connect USB flash or external hard drives to update firmware or back up recordings

REAR PANEL



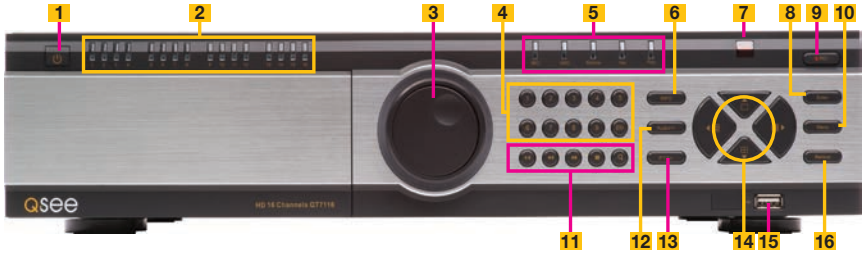
ITEM	NAME	FUNCTION
1	**CVBS (Video Out)**	Video output for connecting to TV (BNC) or monitor
2	**AUDIO OUTPUT**	Connection for audio output – connect to an amplified speaker
3	**AUDIO IN**	4-Channel audio input for cameras equipped with audio
4	**ALARM IN**	Input ports for 8 alarms.
5	**ALARM OUT**	One output port for external alarm
6	**PTZ RS485 BLOCK**	Connections for Pan-Tilt-Zoom speed dome cameras. Y = "+" Z = "-"
7	**POWER SWITCH**	Use to turn on the DVR as well as to turn off after powering down from within the GUI
8	**FAN**	Cooling fan exhaust port. This should not be blocked.
9	**VIDEO IN**	Video input from up to 8 HD SDI cameras
10	**HDMI**	HDMI video output
11	**VGA PORT**	Video output for connecting to monitor at least 19" in size
12	**LAN**	Network (ethernet) port
13	**USB PORT**	Connect USB mouse
14	**DC +12V**	Power input

Later production QT718s have the ports slightly rearranged (below).



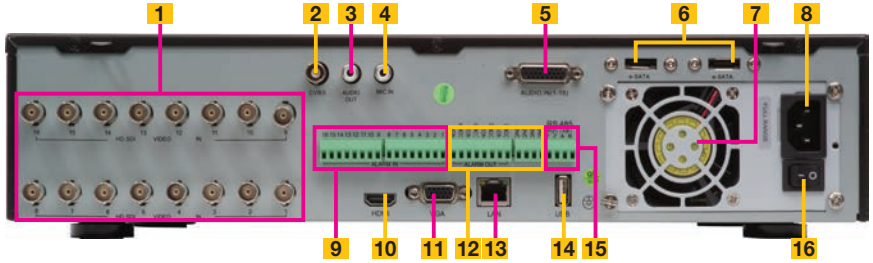
QT7116

FRONT PANEL



ITEM	NAME	FUNCTION
1	SHUT DOWN	Press and hold to begin the shutdown process. the hard drive(s) will spin down and the DVR will display a message letting you know when it is safe to turn off the power using the switch on the rear panel (Item #16 on the next page).
2	CHANNEL LED INDICATORS	Shows the connection status of each camera.
3	VIDEO PLAYBACK KNOB	For use in Video Playback mode. Allows fine adjustment of video playback speed.
4	NUMBERS	For selecting channels. Use the 0/10+ button for selecting channels 10-16
5	LED INDICATORS	Show status of power, hard drive, record, etc.
6	INFO	Opens the Information menu
7	IR RECEIVER	Receives signals from remote control
8	ENTER	Confirm selection
9	RECORD	Begins manual recording on all channels
10	MENU	Opens MAIN MENU
11	VIDEO PLAYBACK CONTROLS	For use in Video Playback mode. Pressing the magnifying glass icon enters the Video Search mode.
12	AUDIO/+	Turns audio on or off. Increase the value in SETUP
13	PTZ/-	Opens PTZ control menu. Decreases the value in SETUP
14	DIRECTION/ MULTISCREEN	1. Navigate through on-screen options 2. Change screen display mode between 1, 4, 9 and 16 channels
15	USB	USB port to connect USB flash or external hard drives to update firmware or back up recordings
16	BACKUP	Opens BACKUP window.

REAR PANEL



ITEM	NAME	FUNCTION
1	VIDEO IN	Video input from up to 16 HD SDI cameras
2	CVBS (Video Out)	Video output for connecting to TV (BNC) or monitor
3	AUDIO OUTPUT	Connection for audio output – connect to an amplified speaker
4	MIC IN	RCA connection for using microphone. Requires speaker(s) located with camera(s).
5	AUDIO IN	16 channel audio input for cameras equipped with audio. Dongle is located in accessory box.
6	ESATA	Ports for connecting two external SATA hard drives for backup.
7	FAN	Cooling fan exhaust port. This should not be blocked.
8	DC +12V	Power input
9	ALARM IN	Input ports for 16 alarms.
10	HDMI	HDMI video output
11	VGA PORT	Video output for connecting to monitor at least 19” in size
12	ALARM OUT	Four output ports for external alarms
13	LAN	Network (ethernet) port
14	USB PORT	Connect USB mouse
15	PTZ RS485 BLOCK	Connections for Pan-Tilt-Zoom speed dome cameras. Y = “+” Z = “-”
16	POWER SWITCH	Use to turn on the DVR as well as to turn off after powering down from within the GUI

In addition to the buttons on the front of the DVR, your system can be controlled through the USB mouse and the remote control. We have found that the majority of our customers prefer to operate their DVRs using the USB mouse because of its ease of use and flexibility and our manual is set up with this in mind.

2.2 MOUSE

The mouse is the default tool for navigating through the menus. Specific instructions for its use within a function appear in the appropriate sections of the manual, but a basic overview is below:

In Live View:

Double-click the left button on any camera view in split-screen mode to bring it to full-screen display.

Double-click again to return to split-screen mode.

Right-click to show the control bar at the bottom of the screen.

Right-clicking again will hide the control bar.

In Setup:

Left-click to make a selection. Right-click to cancel setup or return to previous screen.

To Input Values:

PICTURE 2-1

Move the cursor to a blank field and click. A virtual keyboard will appear which supports numbers, letters and symbols. The Shift function will access symbols in addition to upper case letters.

Certain values, such as time settings, can be changed using the mouse wheel.

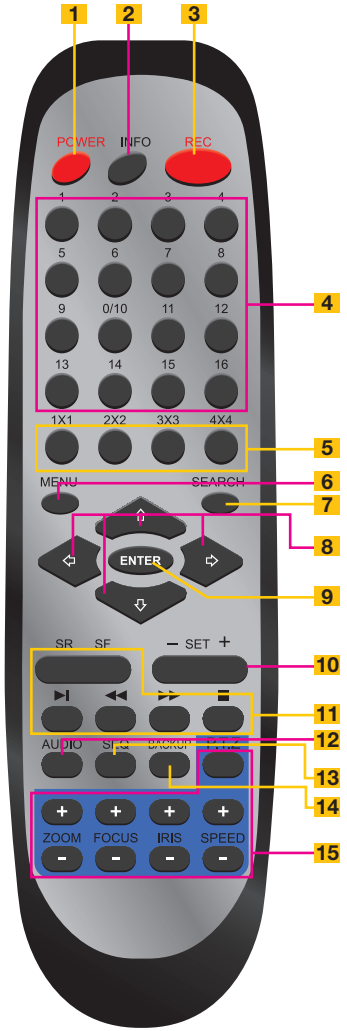
PICTURE 2-2

2.3 REMOTE CONTROL

The remote control allows you to perform most of the day-to-day functions from a convenient distance. It functions as a typical remote control with additional buttons allowing you to navigate through menus and control functions. We recommend that you configure your DVR using the mouse controls, reserving the remote control for operations such as live viewing, file search and playback.

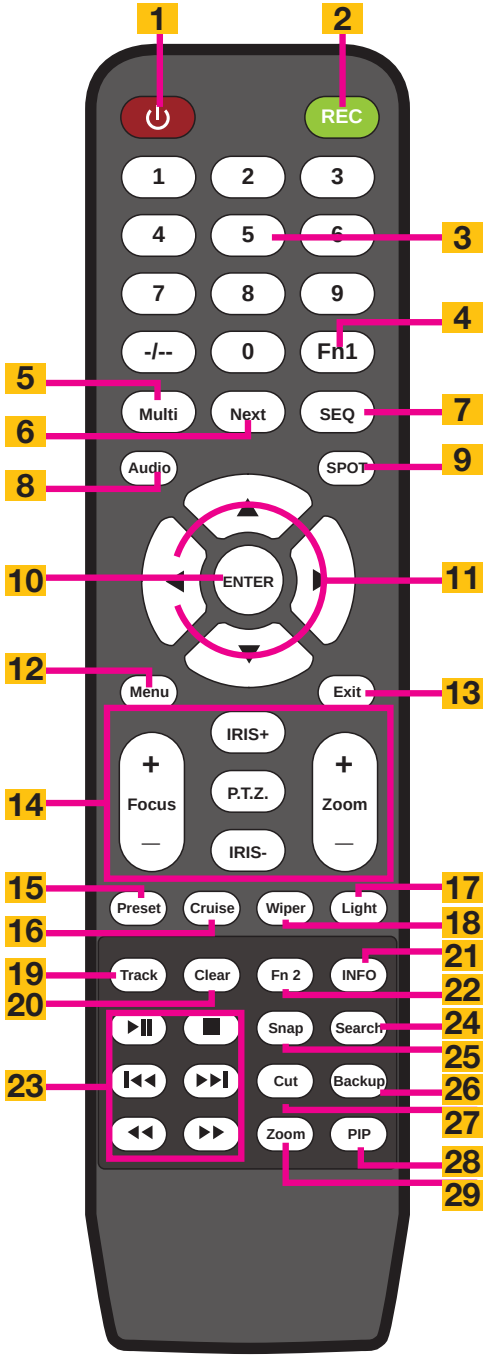
There are three models. All use two AAA-sized batteries. If the remote's performance degrades, check the batteries as well as that the IR receiver window on the DVR is unobstructed.

Item	Button	Function
1	POWER	Soft power down switch. Use this before unplugging the DVR
2	INFO	Get information about the DVR such as HDD space and firmware version
3	REC	Begin recording
4	Numbers	Input numbers in fields or select camera
5	Multi-Screen	Choose multi-screen display mode
6	MENU	Opens **MENU** window
7	SEARCH	Enter **SEARCH** mode
8	Directional	Move cursor in set up or control PTZ camera
9	ENTER	Confirm choice or settings
10	SET +/-	Increase or decrease value in **SETUP** mode
11	Playback	Controls playback functions, including stop, single-frame, fast forward, etc.
12	AUDIO	Enable audio input in live mode
13	SEQ	Returns to auto dwell display sequence
14	BACKUP	Enters **BACKUP** menu
15	PTZ Controls	Controls PTZ camera including zoom, focus, iris and speed



PICTURE 2-3

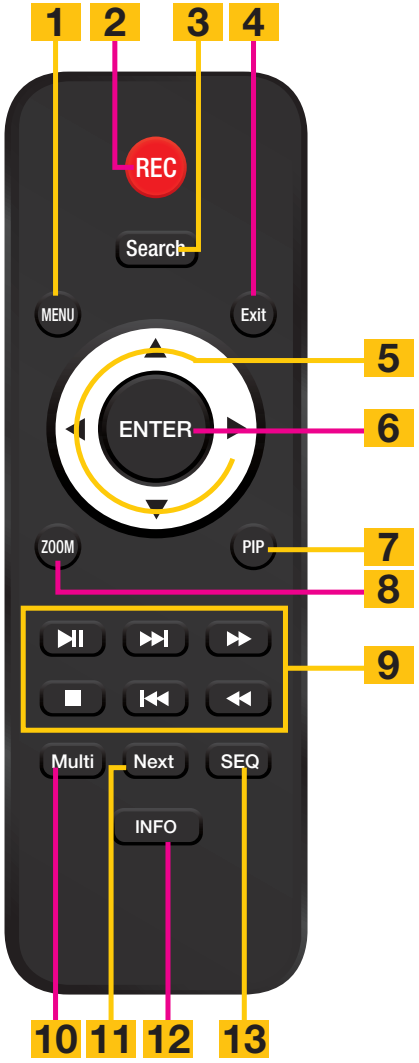
NOTE! The remote that shipped with your DVR will be compatible with that model. It may not be compatible with other models of DVRs, even those from the same series. Your remote may contain buttons for features not available on your DVR.



PICTURE 2-4

Item	Button	Function
1	POWER	Soft power down switch. Use this before un-plugging the DVR
2	REC	Begin recording
3	Numbers	Input numbers in fields or select camera
4	Fn1	Not functional at this time
5	Multi-Screen	Choose multi-screen display mode
6	Next	Switch to next live view group
7	SEQ	Switch to sequential channel display
8	Audio	Enables Audio in Live View Mode
9	Spot	Change video display mode
10	Enter	Confirms choice
11	Directional Controls	Move cursor Control PTZ direction in PTZ mode
12	Menu	Open Main menu
13	Exit	Exits menu or interface
14	PTZ Controls	Controls PTZ camera including zoom, focus, iris and speed
15	Preset	Opens PTZ preset settings
16	Cruise	Opens PTZ cruise settings
17	Light	Turns on PTZ cameras light
18	Wiper	Turns on PTZ camera wiper
19	Track	Opens PTZ track settings
20	Clear	Returns to previous menu/ interface
21	Info	Opens DVR Info menu
22	Fn2	Not functional at this time
23	Playback Controls	Play/Pause, Stop, Fast Forward, Rewind, Single Frame Forward/Backward
24	Search	Opens up video search window
25	Snap	Takes still image snapshot of active live view window
26	Backup	Opens Backup menu
27	Cut	Select start/end points to create a shorter video segment from a video being played back.
28	PiP	Picture-in-Picture mode
29	Zoom	Activates digital zoom

Press the PTZ button to enter the PTZ control panel. Choose a channel and then press the PTZ button to close the panel. Wiper and light functions only function if PTZ camera is so equipped.



PICTURE 2-5

#	Button	Function
1	Menu	Open Main menu
2	REC	Begin recording
3	Search	Opens up video search window
4	Exit	Exits menu or interface
5	Direc-tional Controls	Move cursor Control PTZ direction in PTZ mode
6	Enter	Confirms choice
7	PiP	Picture-in-Picture mode
8	Zoom	Activates digital zoom
9	Play-back Controls	Play/Pause, Stop, Fast Forward, Rewind, Single Frame Forward/ Backward
10	Multi-Screen	Choose multi-screen display mode
11	Next	Switch to next live view group
12	Info	Opens DVR Info menu
13	SEQ	Switch to sequential channel display

2.4 VIDEO DISPLAY

QT-Series DVRs can use a television or a 19" or larger monitor as a main video display. Certain models also provide the option of using a high definition display, such as an HDTV. A video display is not needed for day to day use of your DVR if you are only monitoring it remotely via a mobile device or using a computer, but one is needed for initial setup. It should also be noted that, at present, it is not possible to change settings on the DVR itself using the QT View mobile remote viewing apps and certain settings cannot be changed using the remote monitoring software on the computer.

CONNECTING A VIDEO DISPLAY

Instructions on connecting a desired video display are included in the Quick Start Poster that came with your system but are included here for your convenience.

VGA Monitor

Using a standard VGA monitor - the type used with most computers - with your DVR is the preferred method and the DVR is configured with this in mind. Due to resolution restrictions, you must use a monitor that has at least a 19" diagonal display. This information is typically found on the back of the monitor if you are uncertain.

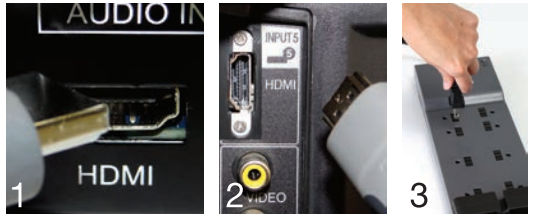
STEP 1. Plug a VGA cable into the port marked "VGA" on the back of the DVR.
STEP 2. Plug the other end of the VGA cable into the similar port on the back of the monitor.
STEP 3. Plug the monitor's power cable into the surge protector.

PICTURE 2-6

High Definition Television

Some QT-Series DVRs include an HDMI video out port allowing you to use a high definition television or other display that has an HDMI video input.

STEP 1. Plug an HDMI cable into the "HDMI" port on the back of the DVR.
STEP 2. Plug the other end into the "HDMI" port on the television.
STEP 3. Plug the television's power cable into a surge protector.



PICTURE 2-7

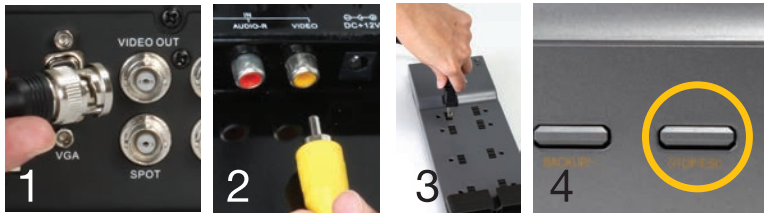
Changing Display Resolution

You can adjust the DVR to optimize its output to best match the capabilities of your monitor or HD display through the following steps:

STEP 1. Open the **Basic** window in the **Setup** window which is located in the **Main Menu**.
STEP 2. Click on the **System** tab.
STEP 3. Use the **Video Output** pull-down to select your desired resolution.
STEP 4. Click on **Apply** to save your settings and then click **Exit**.
STEP 5. Your system will restart. You will have to re-log in afterwards.

Television

A third option for a video display is any television with an RCA video input. The DVR's **Video Out** port uses a BNC (British Naval Connector) type for coaxial cable. Depending on model, your DVR may include a BNC-to-RCA cable or adapter. The latter converts the BNC jack to an RCA port allowing you to connect the DVR to the television using a readily available RCA cable. If you use a television as your video display, you will need to switch the DVR to use that as a primary output by following **Step 4**, below:



PICTURE 2-8

STEP 1. Connect a BNC-to-RCA cable to the "Video Out" port on the back of the DVR.
STEP 2. Plug the RCA end into the "Video In" port on the television.
STEP 3. Plug the television's power cable into a surge protector.
STEP 4. Press and hold the **STOP**, **STOP/ESC**, **EXIT**, **■/ESC** or **VGA/TV** (depending on model) button on the front of the DVR for 10 seconds or until you hear a beep to indicate that the video mode has been changed.

'MISSING' MENU

If you are able to see your camera's video feeds, but you are unable to see your mouse cursor or menu, the most likely cause is that your video mode has been changed. In this case, you need to follow **Step 4**, above and you should see the cursor and/or menu after the beep.

MULTIPLE MONITORS AND SPOT OUT

Some DVRs include a **Spot Out** BNC port on their back panel. This allows you to connect a second video display that will show selected channels in sequence, but will not display the menu and therefore cannot be used to control the DVR. This is covered in **Section 4.2 Live Configuration**. Some users will want to take advantage of the unused video display outputs (ie; using the BNC **Video Out** port when the **VGA** port is being used for the main display. This "extra" display will mirror whatever is shown on the primary display but it will not show the menu or cursor. It is not possible to divide channels across two displays.

Loop Out

Some of our larger DVRs, such as the QT518 and QT536 include one or more ports marked **Loop Out**. These ports work with the included dongle(s) that split the video signal allowing the user to connect one monitor per channel. In this case, the menu will not be displayed on any of these additional monitors.

2.5 CAMERAS

CONNECTING CAMERAS

Your DVR uses BNC (British Naval Connector) ports to ensure quick and secure connections for your cameras' video cables. While both conventional analog and digital SDI (Serial Digital Interface) high definition cameras use this interface, they cannot be connected to a port intended for the other type because of incompatible signals. It is therefore important to ensure that you are attempting to connect to the proper port.

STEP 1. Connect the BNC and power leads on the camera to the matching connectors on the power and video cable.

NOTE: The male power end fits into the matching power lead on the camera.

STEP 2. Connect the BNC connector on the other end of the cable to any of the Video In ports on the back of the DVR.

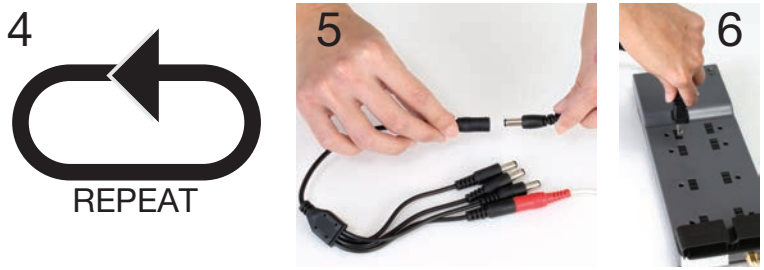
STEP 3. Plug one of the power leads on the power splitter (if your camera kit includes one) into the power lead on the power and video cable. If you are connecting only a single camera, connect the power lead to the power adapter and skip to Step 6, below.

PICTURE 2-9

STEP 4. Repeat for each camera included with your package to ensure proper connection and function.

STEP 5. Connect the single end of the power splitter to the power adapter.

STEP 6. Plug the power adapter into a surge protector. You should now see a live video feed from each of your cameras.



PICTURE 2-10

Some camera bundles may contain more than one camera power supply and splitter. Repeat the steps above as necessary to connect all of your cameras. For bundles containing multiple types of cameras, make sure to connect to the proper power supply as mixing and matching may either cause damage or insufficient power to your cameras.

You may now mount your cameras.

CAMERA PLACEMENT

When installing your camera, it is important to select a proper site not only for field of view, but for other considerations as well:

Distance from viewing/recording device. The further the camera is from the DVR or monitor, the higher the chances of signal degradation. Typical 75Ω Video Cable provides acceptable signal at distances up to 200' (60m). At greater distances, UL-Listed shielded RG59 should be used. The camera's power supply should be located as near to the camera as possible when the distance exceeds 200' as the power level will drop over extended distances resulting in a decrease in video quality.

Do not place near high voltage wires or other sources of electrical interference. Electrical interference will degrade the quality of the signal.

Place camera out of reach to avoid damage.

Avoid direct exposure to weather. Do not place the camera where rain or snow will hit the lens directly nor should the camera be placed so that the sun or bright light shines directly into the lens. Your camera is weatherproof, but it will not work when submerged in water. Ensure that all power and video connections are not directly exposed to water and are protected from the elements.

Indoor cameras should not be used outdoors. Even if they are in a sheltered location, they can still suffer damage due to humidity, dust and other environmental factors. Each camera has an Ingress Protection (IP) rating which defines how protected the internal workings of the camera are from solid objects - such as fingers or bugs - dust and moisture. In an IP rating, there are two numbers that follow the letters "IP." The first represents the protection from solids while the second represents the housing's protection from moisture. A camera should have a minimum rating of IP65 for trouble-free use outdoors.

Mounting surface. The mounting surface must be sturdy and able to hold at least five times the camera's total weight.

Legal Considerations. Always check state and local laws before installing cameras. (2011 NEC 820.44)

Do not place camera behind a window. If there is a light source behind the camera, it can cause a reflection in the window that will obscure events on the other side of the glass. Likewise, the camera's infrared LEDs will reflect off the glass and shine into the lens, thus degrading the image.

Light levels should be approximately the same between camera and target area. A camera in a brightly-lit area looking into a shaded area, or vice versa, may produce inadequate results.

The above are guidelines and the optimal location for your camera will depend on your unique circumstances. As a general rule, the locations highlighted in Green in the picture to the right indicate the best locations to mount your camera. Both locations are sheltered from rain or snow and offer good sight lines to allow your camera to monitor a wide area.

PICTURE 2-11

Because your camera is weatherproof, it requires less protection than weather-resistant cameras and it can be placed in more exposed locations if needed. Keep in mind that most Q-See cameras are designed to operate between 14°F to 122°F (-10°C to 50°) with a relative humidity of up to 95%) and consider wind chill and other environmental factors when selecting your location.

Specialty cameras are also available from Q-See which are able to operate in more extreme environments.

ADDITIONAL CONSIDERATIONS

Most users prefer to operate their systems with the DVRs recording only when motion is detected. This provides the most efficient use of the hard drive's capacity, plus making it easier for a recording to be located. However, if the a camera's location has a lot of "environmental" motion, such as a fan, wind, or the like, you will receive a lot of "false alarms." Usually, these events can be avoided by simply adjusting the placement of the camera. Other situations may require some fine-tuning of your settings. **Chapter 8 Alarms**, covers these settings in detail, but some easily avoidable situations are presented below:

TV/Computer Screens. If the camera can see a video screen, it will trigger a motion alarm any time the screen changes, whether there is a video or simply a screen saver. The screen can be masked out as described in **Section 4.2**. You can also reduce the level of motion sensitivity in specific areas of the screen by following the instructions in **Section 8.3**.

Fans/Machinery. Motion is motion and if machinery within the camera's field of view starts automatically, it will cause an alert. Similarly, if the camera is mounted on a wall with machinery on the other side that causes it to vibrate, that can also cause it to detect motion. Moving machinery within the camera's field of view may be masked off as mentioned above, or motion detection may be turned off for that channel. If there is another camera that covers access to the area where the machinery is located, you can set it so that the first camera will only be recording when triggered by a motion event detected by this second camera. See "**Triggers**" in described in **Section 8.3**.

Bugs. An occasional insect flying through the field of view is usually not enough to trigger an alert. However, some flying insects are attracted to infrared light and will swarm the camera. This is usually a temporary situation that occurs at only a certain time of the year. Lighting the area with yellow "bug light" of sufficient brightness can keep the camera operating in daylight mode and keep the infrared LEDs turned off. A second solution is to set the channel to record all the time, and turn motion detection off at night until "bug season" is over. Reducing the motion sensitivity (**Section 8.3**) can also reduce alerts as can using another camera to trigger recording as described above.

Additionally, keep your cameras clear of spider webs as the movement of the webs due to wind or critters in the web will cause an alert. The reflection of the infrared off the webs and back into the camera will also reduce the night vision range.

Snow/Rain. As with bugs, this is usually a seaonal event and may require motion detection to be temporarily disabled to avoid false alarms. However, positioning the camera further under shelter, such as closer to the wall and away from the edge of the eaves, can make the rain or snow too small for the camera to notice. Adjusting motion sensitivity may also help in some situations.

960H CAMERAS

A new standard for analog video cameras, 960H increases the width of the image from D1's 720x480 pixels to 960x480 pixels. When connected to a DVR with 960H capability, this allows the camera to take advantage of the wider aspect ratios of most monitors and HD screens to deliver a wider, clearer image, without the distortion caused by stretching to fit the screen. This is demonstrated in the image below:

Standard analog camera image stretched to fit HD aspect ratio.

960H camera image.

PICTURE 2-12

You can use 960H cameras with analog DVRs that don't have that technology, but the DVR will be unable take full advantage of the capabilities for best results.

BASIC FUNCTIONS CHAPTER 3

3.1 POWER ON/OFF

Before turning on the DVR, ensure that all connections are good.

POWER ON AND LOGIN

Connect the power supply and the DVR will power up. The LED labelled **POWER** on the front will illuminate and the DVR will display the live image from Channel 1.

Before you can proceed, you will need to log into the DVR.

STEP 1. Right-click with the mouse anywhere on the screen

STEP 2. Press the **MENU** button on the remote or press the **STOP/ESC** button on the front of the DVR to open the **Control Bar** which will appear at the bottom of the screen (**Picture 3-3**).

STEP 3. Once the **Control Bar** appears, click the **Menu** icon on the far left to open the **Main Menu** (**Picture 3-2**).

STEP 4. The **Login** screen will appear. Enter the User Name and Password, ***admin*** and ***123456*** respectively using the Virtual Keyboard described in the last chapter. Click **ENTER** on the keyboard. You can change the password later as described in **Section 4.6 User Management**.

PICTURE 3-1

You are now logged in.

IMPORTANT! If you are logging into the DVR for the first time, it is essential that you set your DVR to the proper date and time at this point. Doing so will allow you to search for events based on when they occurred as well as avoiding complications by having multiple recorded files with the same date and time if you wait to make those settings. Complete instructions can be found in **Section 4.1 Basic Configuration**.

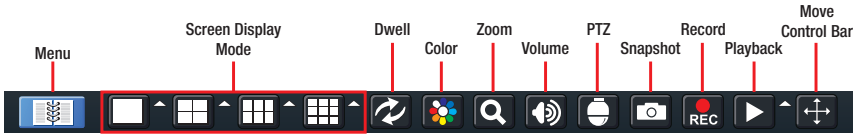
POWER OFF

The DVR will power down to a standby mode when the **POWER** button on the remote control is pressed, or when the **SYSTEM SHUT DOWN** icon is selected from within the **MENU**. In both cases, the **SHUT DOWN** window will appear and users must select **OK** to confirm. The hard drive will stop spinning and the system will shut down. For extended periods of inactivity, it is recommended that the DVR be disconnected from power either by turning off the power at the surge protector or unplugging the device.

PICTURE 3-2

3.2 THE CONTROL BAR

When a user is logged in, pressing the **ESC** button on the DVR or right-clicking on the screen with the mouse will display the **CONTROL BAR** on the bottom of the screen.



PICTURE 3-3

The functions of the Control Bar are listed below. Screen Display Modes are covered on the next page and the other functions will be covered in more detail in the following chapters.

Menu: Opens the **Main Menu**.

Screen Display Mode: Choose the number of channels you wish to view at once. Channels without attached cameras will display "Video Loss." Clicking on the upward pointing arrows to the right of each icon will allow you to select which channels to view in that mode.

Dwell: Enable/disable automatic cycling between channels.

Color: Adjust the brightness, hue, saturation and contrast for any channel.

Zoom: Available in single screen display mode, this digitally enlarges a section of the display.

Volume: Adjust volume. This is only available if you have attached a microphone or audio-capable camera to the DVR.

PTZ: Opens the controls for optional Pan-Tilt-Zoom cameras.

Snapshot: Captures a still image from all channels and saves it to the hard drive.

Record: Begin manual recording on all channels.

Playback: Switches to Playback mode and brings up the **Playback Control Bar**.

Move Control Bar: Clicking this will allow you to reposition the Control Bar anywhere on the screen. Right clicking on the screen will hide the **Control Bar**.

DISPLAY MODE

By clicking on the display mode buttons on in the **Control Bar** you can quickly configure how your cameras' video feeds are displayed. The settings here will temporarily override the default configuration made in the **Main Monitor** tab in the **Live** menu (see **Section 4.2 Live Configuration**). You can select whether to view a single channel at a time, two channels in a picture in picture format, or view multiple channels in a split screen mode. In addition, users have the option to select how many channels to view at once as well as which channels will be shown in that multi-channel display. The number of display mode options and their configuration will depend up on the model of your DVR. With the exception of the nine-channel viewing mode on an eight-channel system, your DVR will not have the option to display more channels than it supports. If you have fewer than the maximum number of cameras connected to your DVR, the channels without cameras will remain black and display a "**Video Loss**" message.

PICTURE 3-4

Click the icon beside the desired screen display mode to open the **CHANNEL SELECT** menu.

Users can check any or all channels to display the live feeds (depending on the display mode chosen and the number of channels on the DVR). Click the box to confirm the settings before closing the **CHANNEL SELECT** menu by clicking on the button.

PICTURE 3-5

You can move camera views to a new position by clicking and dragging the desired channel's display. When a channel's view is dragged into another area, the view that it replaces will move to the vacated location.

Double-clicking on any of the channels being displayed will bring that camera's video to full screen. Right clicking anywhere within the image will return the display to its previous mode.

Asymmetric Display

With the exception of the four-channel DVRs in this series and the QT536, users have the option of viewing cameras using an asymmetric display mode. This modes consists of one large image plus several smaller images. As described above, a camera's display can be dragged from one of the smaller windows into the larger window for easier viewing while maintaining a multi-channel display.

Picture in Picture

If you wish to only monitor two channels at a time, most QT DVRs (excluding the QT536) feature the Picture-in-Picture mode. The icon for this display mode is shown at the far right of **Picture 3-4**.

PICTURE 3-6

PICTURE 3-7

Clicking on the Picture-in-Picture button will open a pop-up window (**Picture 3-6**) allowing you to select which channel will be the main video feed. Clicking on the button in the lower left of that window will open a second pop-up window (**Picture 3-7**) allowing you to select the channel that will be displayed within the larger image. Note that the channel currently being used for the larger display will be darkened and not selectable.

3.3 LIVE VIEWING AND RECORDING

SWITCHING VIDEO OUTPUT

As described in **Section 2.4 Video Display**, the DVR is normally configured to output video signal to a 19" or larger monitor through the VGA port on the back. However, if you have attached a television to the Video Out port instead, then you will need to press and hold the **ESCAPE**, **EXIT** or **STOP** button (depending on model) on the front of the DVR for 10 seconds or until you hear a beep to indicate that the video mode has been changed. On the QT474, the video mode can be changed by pushing and holding the **VGA/TV** button.

LIVE VIEWING

The normal mode of the DVR is to display the live feed from the cameras. Configuring which channels will be displayed, naming the cameras and other display settings will be covered in **SECTION 4.2**.

PICTURE 3-8

In addition to the camera images, the DVR will display symbols regarding the status of each camera

Symbol	Meaning	Symbol	Meaning	Symbol	Meaning
	Scheduled Recording		Alarm Recording		Manual Recording
	Motion Detection		Audio Enabled		

RECORDING

Your DVR is configured to record whenever motion is detected. It is also set to record at the best setting possible. These settings work for most users, but each user's situation will be different and directions for adjusting these settings can be found in **Section 4.3 Record Configuration**.

3.4 QUICK PLAYBACK

Pushing the playback button on the DVR or remote will enable you to play back what has been recently recorded by launching Quick Playback.

Clicking on the **Playback** button within the **Control Bar** will begin the Quick Playback process as well.

PICTURE 3-9

The time period for the Quick Playback can be set by clicking the upward-pointing arrow icon next to the **Playback** button. You can chose to go back 2-, 5- or 10 minutes. This setting will apply whether you've selected playback on the remote, the front of the DVR or by clicking on the **Playback** button.

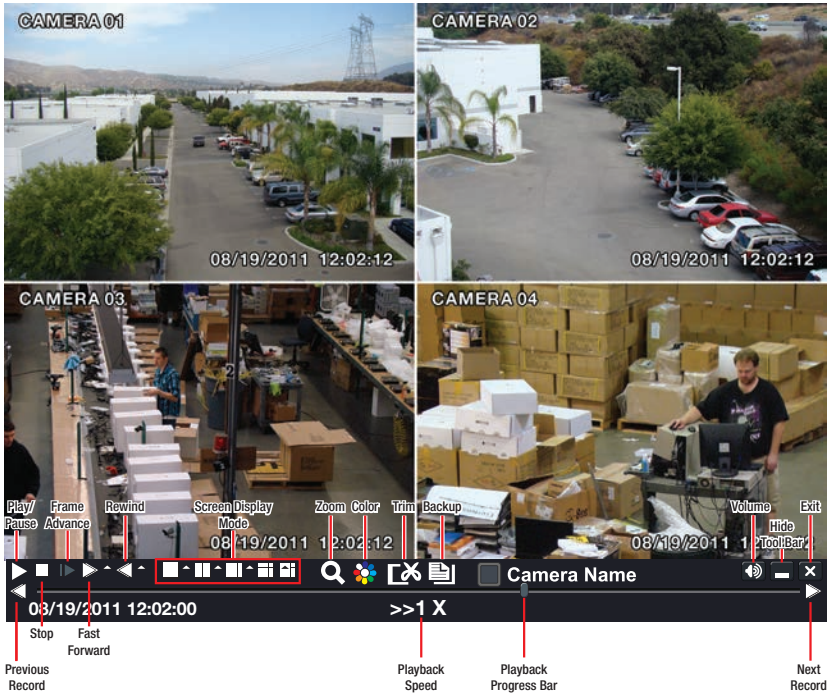
PICTURE 3-10

Only channels with recorded video will display their feeds and those without will be dark. As shown on the next page, a toolbar will appear below the display showing the playback controls. If you are using the mouse, clicking on the various controls will affect the video playback in a similar manner to using the front panel buttons or remote control.

There may be additional video recorded before your starting point and you can go back to the beginning of the recording within this playback. You will, however, need to use the search feature described in **Section 4.8** to locate video event recordings from other days, or earlier times.

PLAYBACK CONTROL BAR

The controls operate in a similar fashion to those of a conventional DVR or other video playback device but with a few additional commands available to you:



PICTURE 3-11

Previous/Next Record: Moves to the prior or following recorded event, respectively.

Fast Forward/Rewind: In addition to their normal operation, clicking on these buttons multiple times will speed up or slow down the rate or progression - forwards or backwards - through the file. The speed can also be selected directly by clicking on the small upward pointing arrows to the right of each button. You can select from 1/4 speed to 16-times normal speed forward and rewind speeds of 8-times, 16-times and 32-times normal speed. The current speed will be displayed at the bottom center of the Playback bar.

Screen Display Mode: As with the **Control Bar**, these icons allow you to choose the number of channels you wish to view in playback. Clicking on the upward pointing arrows to the right of each icon will allow you to select which channels to view in that mode. Channels with no recordings will appear blank.

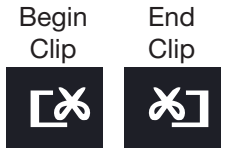
Zoom: Available in single screen display mode, this digitally enlarges a section of the display. Select this tool and then click-and-drag to select a portion of the video feed to enlarge it. Clicking and dragging within the zoomed-in area will allow you to move to other areas of the image. Right-clicking will return the video to regular display mode.

Color: Adjust the brightness, hue, saturation and contrast for any channel. Please note that this will only effect the playback for this channel on the DVR itself. It will not change the recording.

Playback Progress Bar: The slider moves along the Playback Progress Bar as the video plays. Moving this with the mouse will go to another segment of the video. You can move to another point in a single video by first clicking on that channel and then moving the slider to the desired time. Other channels will continue progressing normally.

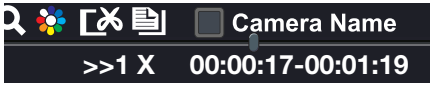
Trim: Using this tool allows you to save a segment of the video record rather than having to back up the entire file.

To select a segment move the **Playback Progress Bar** to before the desired location in the video and begin playback. Once you reach the desired starting point, click on the **Trim** button to set the beginning of the clip. The button's icon will flip indicating that it is waiting for you to select the ending point. When you have reached that point, click the button again to complete your edit. The starting and ending times will be displayed at the bottom of the **Playback Control Bar**.



PICTURE 3-12

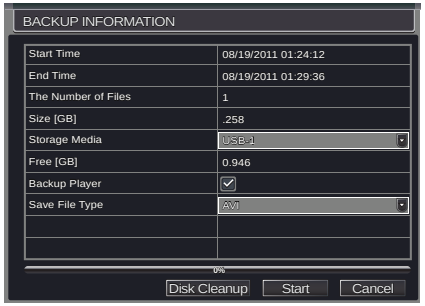
Backup: Once you have created your video clip, the **Backup** button will turn white indicating that you can save your clip directly to a USB drive connected to the USB port on the front of the DVR. The drive must be connected before clicking on the **Backup** button.



PICTURE 3-13

When the **Backup** button is clicked, the **Backup window** will open. It will list details about the file and the storage media that you have connected. If you have more than one drive connected - including ESATA, USB CD/DVD burners or other external media, you can chose the desired destination in the **Storage Media** pull-down.

If you do not have enough space on the disk to save your file, you may select **Disk Cleanup** to remove all files from that disk.



PICTURE 3-14

Chose the format in which you want to save your video clip. The .DVR format requires a special player program which will be included in a second folder on the drive. The .AVI format will work with most standard media playback software on PC or Mac computers. If selecting .AVI as the format for your files then you should deselect the **Backup Player** box.

Click **Start** to begin the download and the progress bar at the bottom will fill up as the file is transferred.

For more information regarding backing up files, please see **Chapter 5**.

IMPORTANT! If you have audio recorded along with the video, you **MUST** select the **.DVR** format in order to preserve it. Be sure to check the box next to **Desktop Player** to also download the player program which can then be used to convert the file - with audio intact - to the more conventional .AVI format.

MAIN MENU SETUP CHAPTER 4

4.1 BASIC CONFIGURATION

This chapter is intended to help you get your DVR up and running before you activate any advanced features which are covered in later chapters. You can use the mouse, remote control and the buttons on the front of the DVR to operate your system, but for convenience, we will be discussing operations using the mouse. Information on P.T.Z. cameras and alarms will be found in their own chapters, **Chapters 7** and **8**, respectively.

MENU NAVIGATION

Navigation through the user interface is point and click. Double-clicking on an icon within a given menu will open that menu, or a submenu. The Main Menu is the starting point to reach all of the DVR's settings and features. Selecting the **Menu** icon on the left of the **Control Bar** or pressing the **Menu** button on the DVR and remote control open the **Main Menu**.

PICTURE 4-1

Clicking on any icon will open the relevant menu.

PICTURE 4-2

SETUP

From the **Setup** menu select the **Basic** menu by clicking on its icon.

PICTURE 4-3

NOTE! When configuring your settings, you will always need to click **Apply** to save your current settings before closing the window with **Exit** otherwise your changes will be lost. You may click **Exit** or the close window box (**X**) in the upper right of the window to close without saving changes but an alert will pop up asking if you wish to save changes. Click **OK** to save changes or **Cancel** to continue without saving. You may select the **Default** button to restore your settings to those set at the factory.

BASIC MENU

There are three tabs covering **System**, **Date & Time** and **Daylight Savings Time** (DST). In the first tab, System you will set the date, time along with other desired settings.

System Tab

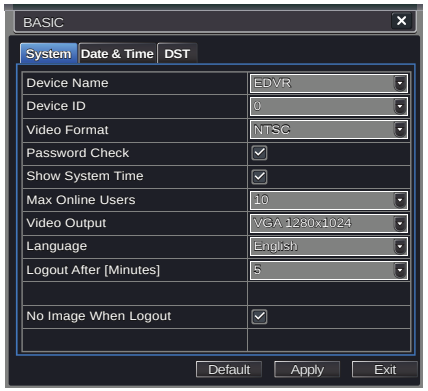
The following settings can be changed in this menu:

Device Name: This will display when you access the DVR remotely via your mobile device, a web browser or through the CMS software. Naming the device will help users recognize the device when monitoring numerous DVRs remotely.

Device ID: If you have multiple systems, you can give this device a numerical ID.

Video Format: Select between NTSC (North America) or PAL (Europe) video standards.

Password Check: By enabling this, a user will need to enter name and password when performing configuration operations.



PICTURE 4-4

Show Time: Displays the time on-screen in Live View.

Max Network Users: Set the maximum number of network connections - up to 10.

VGA Output: Chose the configuration that best fits your monitor. Options are: VGA 800x600, VGA 1024x768 (Default), VGA 1280x1024 and CVBS. NOTE: VGA is for VGA monitors while CVBS is for TV monitors connected using a BNC/RCA adaptor. Switching between VGA and CVBS will change the menu output mode. Please be sure to have the correct monitor on hand when changing output mode.

Language: Select your preferred menu language. The DVR will have to restart for this change to take effect.

Logout After... : You can have the DVR automatically log a user out after a period of inactivity. The period can range from 30 seconds (.5), 1, 3 or 5 minutes or never.

No Image When Logout: The monitor will not display the Live View when this box is checked.

IMPORTANT! After changing the Language or Video Format, the device will need to be restarted.

Date & Time Tab

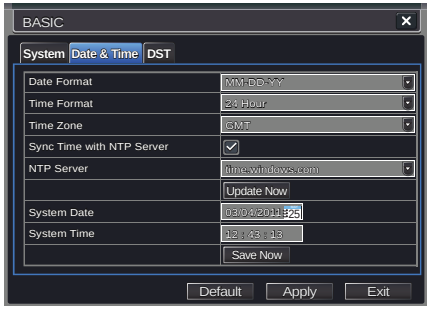
Set date, time, time format and related configurations in this menu.

IMPORTANT! To maintain the integrity of recorded video, you should set the DVR to the correct date and time before making changes in other menus.

Setting the correct date and time before proceeding is essential to maintaining the integrity of your video records - especially for purposes of evidence. Making these straightforward settings should be your first priority before proceeding further within this manual. Changing the date and time after important videos have been recorded could result in the loss of those files.

Most of the options within this menu are self-explanatory. If you are unsure of your time zone, the date and time settings on your computer or searching online for "Time Zones" will quickly provide you with the information you need.

NTP Server: Using Network Time Protocol will keep your system's clock current by allowing it to occasionally receive updates from the selected server. Your DVR must be connected to the Internet for this feature to work. Please see the Remote Monitoring Guide for instructions.



PICTURE 4-5

DST Tab

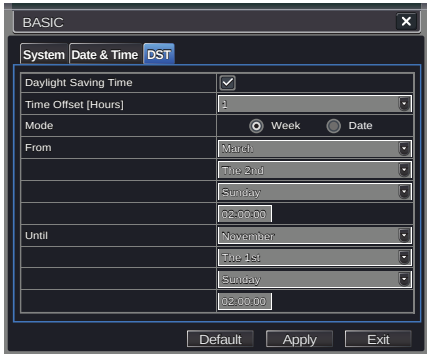
This setting allows your system to adjust for time changes due to Daylight Savings Time. Again, your system must be connected to the Internet for this feature to work. As of this writing, Daylight Savings Time begins in most areas of North America on the 2nd Sunday in March and ends on the first Sunday in November. Both changeovers happen at 2 am. Allowing the DVR to make the change automatically ensures that files will not be lost as could happen by manually changing the hour.

Checking the box marked **Daylight Saving Time** will enable the DVR to switch the hour automatically.

The starting and ending periods must be set using the pull down options along with entering the hour manually. The **Week** radio button should be selected for this method.

If your region switches to and from DST on a specific date, then chose the **Date** radio button and enter the needed information.

Click **Apply** to save your settings and **Exit** to close the menu.



PICTURE 4-6

4.2 LIVE CONFIGURATION

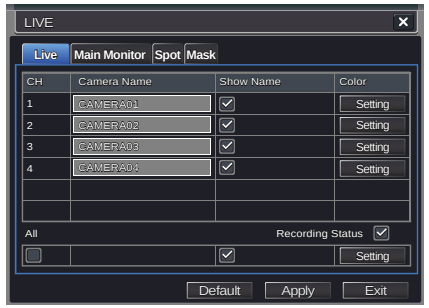
Live configuration includes four submenus: **Live**, **Main Monitor**, **Spot** and **Mask**.

Live Tab

Use this menu to set camera names and adjust picture colors, brightness, hue saturation and contrast for optimal picture results.

You can individually name cameras by highlighting the field for each camera. The virtual keyboard will appear allowing you to enter characters, numbers and symbols with case sensitivity. **ENTER** will save the name and return to the **LIVE** menu. **ESCAPE** will exit the keyboard without saving.

You can enable or disable the display of the cameras' names and recording status (**see Section 3.3**) by using the check boxes.



PICTURE 4-7

You can configure the color settings for each channel individually. Adjust image saturation, hue, brightness, and contrast by clicking on the Setting button for each individual camera or for all of them simultaneously by selecting the All button before making the settings. This window can also be reached by clicking the color button on the **Control Bar**.

PICTURE 4-8

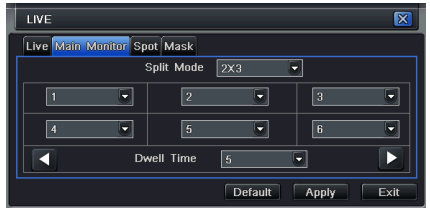
Main Monitor Tab

Select the configuration of your display.

Split Mode allows you to choose from single view, 2x2, 2x3, 3x3, 4x4 *(depending on model)* views on a screen at one time. You can also select which channels will be displayed.

Channels can be grouped and the display will cycle between groups. Any individual channel can be shown in more than one group.

Dwell Time: This is the time interval the display will spend showing a group before moving on to the next group.



PICTURE 4-9

NOTE! If viewing remotely on a computer with dual monitors, the display must be on the main monitor.

Spot Tab

This allows select feeds to be viewed on a separate monitor that is connected to the DVR but may be in another room, for example. There will be no menu access on this auxiliary display.

Only one channel can be displayed at a time on this monitor. You may create groups of channels or designate a single channel as a group. A channel may be placed within more than one group. Select the order of the channels and their dwell time. Use the left and right arrows to switch between groups.

PICTURE 4-10

Mask Tab

Set up masks on individual cameras to block out select areas on each screen. This is to grant privacy in situations when other users may be able to view the camera feeds and you wish to restrict viewing of certain areas or activities.

Click on the **Setting** button next to a given camera to apply a mask to its view.

PICTURE 4-11

Up to three areas may be masked in an image. Simply click and drag to cover the area. To delete, double-click on a mask.

Right-click to exit the screen, your masks will be saved.

The masks will appear on that channel's image in the live area as well as on recordings.

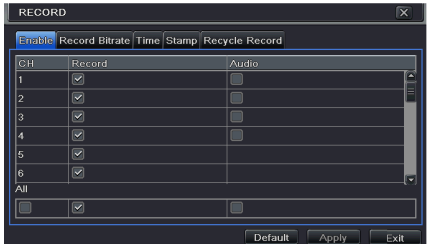
PICTURE 4-12

4.3 RECORD CONFIGURATION

QT4 Series DVRs are set to record in real-time (30 frames per second) in the CIF format. Depending on the model, one or more channels may be set to record in the higher resolution in real-time, or all channels may record in D1, but at a reduced frame rate. QT5 Series DVRs, along with the QT454, are configured to record in real-time on all channels in the high-resolution D1 format. SDI DVRs will only record at 1080p resolution. The QT2124 can only record in the CIF format. There are five sets of options; **Enable**, **Record Bitrate**, **Time**, **Stamp** and **Recycle Record**.

Enable Tab

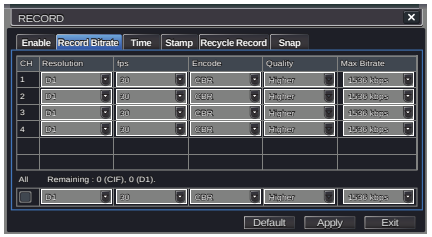
Select some or all of the cameras to record to the DVR. Depending on your DVR model, you can set up to 16 cameras to record audio in addition to video. This will require cameras equipped with microphones or separate microphones co-located with the camera(s). You can globally select all the cameras regardless of their individual settings by selecting the **All** box below each column.



PICTURE 4-13

Record Bitrate Tab

Set up the resolution, quality, encoding, quality and maximum bitrate of the video stream according to your needs. You can set each camera individually, or globally by using the **All** function at the bottom of the window.


RECORD
Enable Record Bitrate Time Stamp Recycle Record Snap
CH Resolution fps Encode Quality Max Bitrate
All Remaining : 0 (CIF), 0 (D1).
Default Apply Exit

PICTURE 4-14

NOTE! While each camera can have its resolution and frame rate set independently of the other cameras, the DVR may limit the frame rate available to a camera based on the settings of other cameras.

Parameter	Options	What it Means
Resolution	D1, CIF 1080P	D1 = Full TV resolution, CIF = 1/2 D1. D1 takes more room on the hard drive than CIF 1080P = Full HD resolution. Only available (and only option) on DVRs with SDI. Will only record at 7FPS. (see below).
FPS	1-30	Frames per second. More frames makes for smoother video but takes up more room on the hard drive.
Encode	VBR, CBR	Variable Bit Rate versus Constant Bit Rate. VBR provides better image quality for video with motion in it, but at the expense of a larger file size.
Quality	Lowest – Highest	Only available when VBR is selected. The higher the quality, the more drive space required. CBR's default setting is for higher quality.
Max Bitrate	256-2084kbps	This sets the maximum bitrate that each camera will record at with VBR encoding selected.

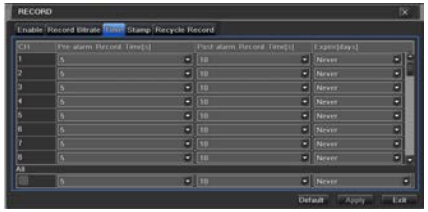
Time Tab

You can set the length of time the DVRs record an event before and after a motion detection or alarm is triggered as well as how long an individual record is preserved.

Pre-alarm record time: This sets the length of time showing events prior to a motion detection or sensor-triggered event that is included in the record.

Post-alarm record: Sets the length of time - from 10 to 60 seconds - that is added to the record after the event is finished.

Expire time: The time - up to 60 days - that an event is saved on the drive before it could be overwritten (See **Recycle Record** below).



PICTURE 4-15

You can set up all channels with same values by selecting **All** and then configuring one channel.

Stamp Tab

Select which cameras will display their ID and date stamp and where it'll appear on the screen.

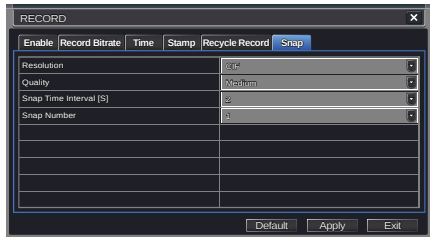
Drag and drop the location of the camera name and date/time stamp to your desired location on the screen. This can be done individually or globally. A "Before" and "After" example is shown below.

PICTURE 4-16

PICTURE 4-17

Snap Tab

In this tab, you can configure how many still images are taken, the quality of the images and the timing between them when the **Snapshot** button is pushed on the **Control Bar**.



PICTURE 4-18

Recycle Record Tab

This is selected by default. Recycle record allows the DVR to record over old events when the hard drive is full. Otherwise, the DVR will stop recording when there is no more space available.

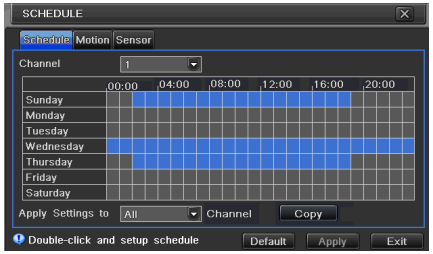
4.4 SCHEDULE CONFIGURATION

Your DVR is configured to record whenever motion is detected. If this is your desired setting then you will not need to make any changes. However, you may configure each channel to record at specific times based on time of day, motion detection or other sensor input. There are three tabs; **Schedule**, **Motion** and **Sensor**

Schedule Tab

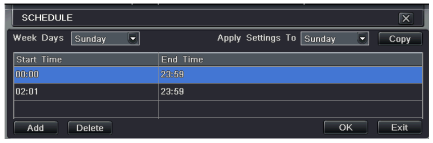
The schedule for automatic recording can be set either of two ways.

1. By highlighting individual hours for specific days by using the pencil tool in the upper right of the window. The adjacent eraser tool removes the highlighting in a block. Double click on either the pencil or eraser tool to turn them off. Settings can be copied and applied to any or all of the channels and to any other day.



PICTURE 4-19

2. Blocks of time to be recorded can also be set up by double clicking on a field adjacent to a day. Multiple schedules can be created and saved with start and stop times down to the minute. These can then be applied to multiple days and cameras.

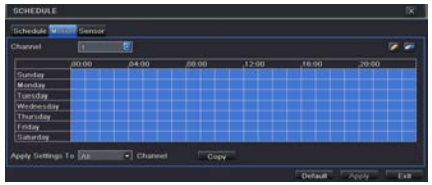


PICTURE 4-20

Schedules made in one mode can be altered in another mode.

Motion Tab

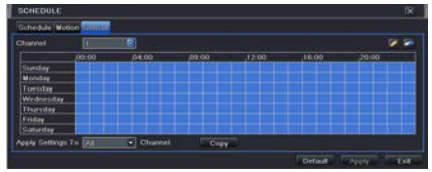
Motion detected during the highlighted hours will cause the DVR to start recording. Setup is similar to that used in **Schedule** above. The default mode is for 24/7.



PICTURE 4-21

Sensor Tab

This enables the DVR to record based on input from other sensors connected to the DVR. Like motion detection, it is default scheduled to be able to record at any time. It is also configured in the same manner as explained under **Schedule**.



PICTURE 4-22

4.5 NETWORK CONFIGURATION

The **Network Configuration** window is used to control how your DVR works in a networked environment. This section offers a brief overview of how to set up your DVR so that it can be remotely monitored from another computer on your network, over the Internet or from mobile wireless devices. Full, in-depth instructions on the functions and settings available in this window are presented in the **Remote Monitoring Guide** which is on the disk that came with your system or which can be downloaded from our website at ***www.Q-See.com/Support***. The four tabs in this window are **Network**, **Sub-Stream**, **Email** and **Other Settings**. If you will only be monitoring the DVR from another computer on your network, you will only need to use the first three tabs.

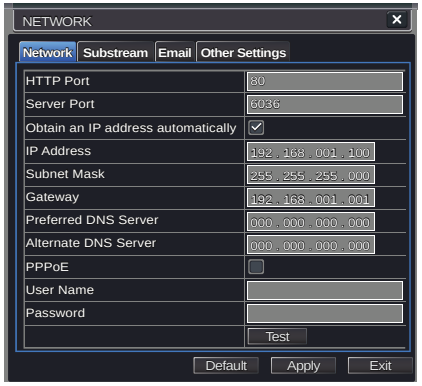
It is important that your DVR is connected to your network router and that the router is powered on before proceeding.

This window displays the information on the DVR's local network and Internet addresses which will allow you to access the DVR on a network. As discussed in the Remote Monitoring Guide, you will use the local network address to access your system from the same wireless or intranet network that the DVR is connected to. When you are outside of that area, you will use the Internet address shown (see below) or the DDNS address that you will set up.

IMPORTANT! The majority of routers available on the market since 2008 have Universal Plug and Play (UPnP) capability, which allows the DVR to connect automatically to the network. Consult the **Quick Networking Poster** or the **Remote Monitoring Guide** before changing Network settings.

Network Tab

HTTP Port – This is the port the DVR will use to communicate through the router. When accessing the DVR remotely from the Internet, you will need to enter your network's remote IP address (obtained in the next step) in the address bar of an Internet Explorer window. For example: http://88.116.0.25



PICTURE 4-23

NOTE! The default value is 85. If port 85 is already occupied by another device on the network, then another port will need to be selected. Choose another number in the same range; 81-89. In this case, you will have to add the port to the IP address when entering it into the Internet Explorer window. For example, if the port is now 82, then you will need to enter http://88.116.0.25:82

Obtain IP Address Automatically – Clicking this box will obtain the IP address, subnet mask, and gateway IP from the router.

PPPOE – Selecting this enables Point-to-Point Protocol over Ethernet (PPPoE) which allows you to directly connect your DVR to the Internet through your modem. Do not use this unless you are connected to a modem instead of a router. Contact your ISP for your account information including user name and password. The **TEST** button will verify that your information is correct.

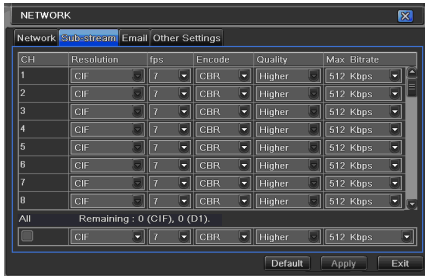
Definitions and descriptions of network configuration:

Parameter	Definition
HTTP Port	The network port number for accessing the DVR from a remote location. The default port is 85
Server Port	The port number for data. The default port is 6036
Static IP	
IP Address	The IP address of the DVR on your network
Subnet Mask	The server's subnet mask
Gateway	The gateway of the router
DNS Server	The address of the Domain Name System (DNS) server
PPPoE	
User Name	User name of the broadband account
Password	Password for broadband account

Substream Tab

The substream is the data that is sent to remote monitoring devices. Due to bandwidth concerns, these data streams are generally smaller than those sent directly to the DVR itself. These streams run in parallel with the main stream sent to the hard drive and they do not affect each other.

Substream settings are configured in the same manner as that used for the primary stream settings in the **Record Bitrate** tab in **Section 4.3** Certain settings will be grayed out and cannot be changed due to throughput concerns. The definitions are repeated for your convenience:



PICTURE 4-24

Parameter	Options	What it Means
Resolution	CIF	CIF = 352 x 240 pixels. Only this resolution is available in the substream.
FPS	1-30	Frames per second. More frames makes for smoother video but may not be possible due to bandwidth.
Encode	VBR, CBR	Variable Bit Rate versus Constant Bit Rate. VBR provides better image quality for video with motion in it, but at the expense of a larger file size.
Quality	Lowest – Highest	Only available when VBR is selected. The higher the quality, the more drive space required. CBR's default setting is for higher quality.
Max Bitrate	256-2084kbps	This sets the maximum bitrate that each camera will record at with VBR encoding selected.

Email Tab

This tab allows you to set how your DVR will send out e-mail alerts. You will be able to send e-mail alerts to three addresses.

NOTE! Depending upon your settings, the system can generate a lot of e-mail alerts. For that reason, we recommend setting up a dedicated e-mail address specifically for the system to send alert notices. If you do not have your own e-mail system (such as a corporate mail server) you should consider using a free e-mail provider. However, because many free e-mail services allow only a limited amount of e-mail traffic we specifically recommend using Google's Gmail service with its higher limit. Similarly, you will want the alert emails to go to a different account than the one sending them. This will ease your management of these alerts and help keep your mail account from overflowing.

If you do not have your own e-mail system, please set up a free account which the DVR can use to send out alerts before proceeding.

For the example below, we will use Gmail. The settings can be found under **Options** when logged into your Gmail account.

Clicking on any of the fields will bring up the virtual keyboard allowing you to enter the data. The virtual keyboard is capable of handling upper and lower case letters as well as numbers and symbols. Click the **ENTER** button to enter your input or **ESC** to exit the field without applying any changes.

SMTP Server: smtp.gmail.com

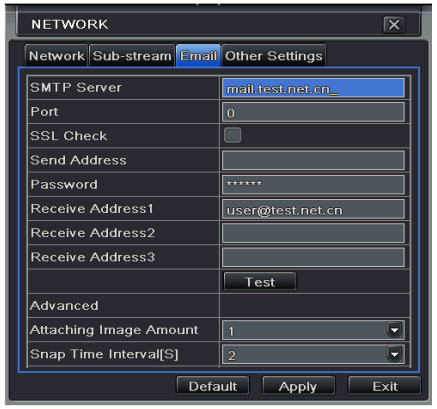
Port: 465 (standard port for Gmail - others may vary)

SSL Check: You will need to select this for Gmail. Other ISPs may vary.

Send Address: Enter your new address. This will appear on alert emails sent from the DVR

Password: Enter the password you created for this account. Remember, it will be case-sensitive.

Receive Addresses: You may set up to three e-mail addresses to receive alerts. It is strongly advised that you do not use the same address that the DVR is using to send alerts.



PICTURE 4-25

Advanced

Attaching Image Amount: The alert emails can include up to three images

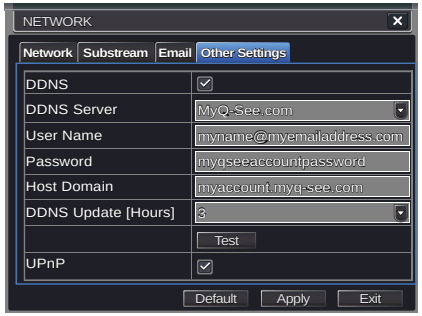
Snap Time Interval: The interval of the images can range from every second to every five seconds.

Other Settings

Commercial ISPs provide their customers with dynamic addresses (IP numbers). These numbers can change from time to time depending upon your service provider. When they do, you will lose the ability to remotely access your DVR from your mobile phone or other out-of-network device. To prevent this from happening, we recommend using a Dynamic Domain Name Service (DDNS). This will give you a domain name that can be linked to your IP address and will automatically – and invisibly – forward remote connections to your network when the IP address changes.

Q-See offers DDNS for free at ***MyQ-See.com***. Create a domain name, user name and password before proceeding. ***DynDNS.com*** also offers a similar free service. This is covered in-depth in the **Remote Monitoring Guide**.

Select the box in the DDNS field to enable DDNS. You will then enter the user name, domain name and password you created into the appropriate fields. You can also select the interval in days at which the DDNS checks to see whether your IP address has changed. Intervals range from every 30 minutes to once a day.



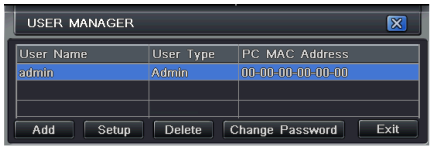
PICTURE 4-26

You can now access the DVR remotely by inputting that domain name into the web browser.

4.6 USER MANAGEMENT

USER ACCOUNTS AND PASSWORDS

You can set up accounts for each individual user and grant them control of select parts of the surveillance system. An administrator account is already created on the DVR. Additional accounts can be created for users but only one administrator account is allowed.



PICTURE 4-27

To add a user select the **Add** button and the **ADD USER** window will open. It will have two tabs; **General** and **Authority**

General Tab

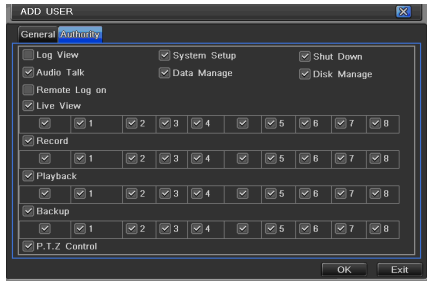
Input the name, password and select the type of user – normal or advance.

If you only want this user to be able to access the DVR from a specific computer on the network then select the **Binding PC MAC Address** option and then enter the MAC address of that computer.

PICTURE 4-28

Authority Tab

In this tab you can give this user access to all or part of the system and its functions.



PICTURE 4-29

Setup button – Modify user's name, type, binding PC Mac address and etc. With the exception of changing the password, the Admin account may not be modified.

Delete button –Remove a user from the system

Change Password button – Modify a user's password. The admin password may be changed. The default is ***123456***.

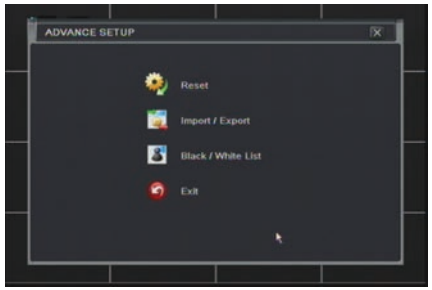
To change a password, simply click on the button and enter the current password in the pop-up window, along with the desired new password in the **New Password** and **Confirm Password** fields before clicking **OK** to save and **Exit** to close the window.

4.7 ADVANCED

In this set of commands, the user can erase all the settings, import or export data files to and from the DVR and control who can remotely access the DVR through three submenus: **Reset**, **Import/Export** and **Black/White List.**

RESET

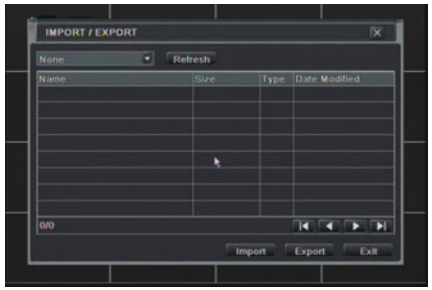
Clicking on this option will open a warning dialogue asking you to confirm that you wish to remove all settings and reboot the system. You must select **OK** to continue with the reset or hit **CANCEL** to exit without changes.



PICTURE 4-30

IMPORT/EXPORT

Use this interface to export select data files to mobile Flash drives or an external USB drive through the backup function. Specific data files can also be retrieved from mobile or external storage devices and recorded onto the DVR.



PICTURE 4-31

BLOCK/ALLOW LIST

From here, an authorized user can control which computer users are allowed to access the DVR.

PICTURE 4-32

The **Block List** is used to deny access to remote computers within a certain IP address segment.

The **Allow List** is used to permit access by users from select IP address segments.

EXAMPLE: You wish to block access to the DVR from computer users within the IP address segment ranging from 196.168.000.002 to 196.168.000.004. Select the **Block** button and then enter the first segment in the **IP From** field and the last address within the segment in the **To** field. You may add additional segments before hitting **Apply** to save your settings and then exiting this window.

4.8 FILE SEARCH, PLAYBACK AND MANAGEMENT

Access the recordings on the DVR, play them back and backup the recordings to an external storage device.

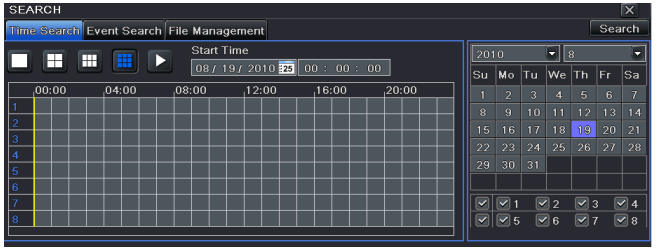
Four submenus appear in this section: **Time Search**, **Event Search**, **File Management** and **Image**.

PICTURE 4-33

NOTE! Throughout this window, if the screen resolution is VGA 800*600, the time search interface will show a **Hide** button. Clicking on this button will expand or minimize the entire interface as needed.

TIME SEARCH

Search for an event within a range of dates and times.



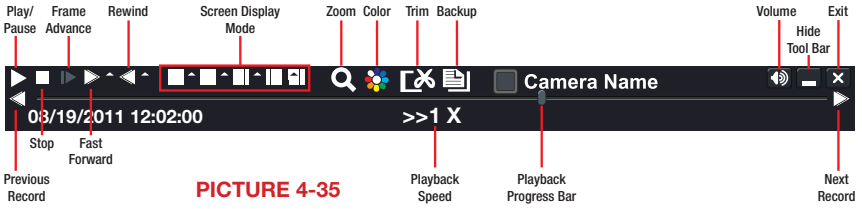
PICTURE 4-34

Select which channel you wish to search and the screen display mode. The **Calendar** icon in the **Start Time** window allows you to select a start date. Highlighted dates indicate that there is recorded data for those days.

The vertical column of numbers to the left of the grid are the available channels. The horizontal headings are blocks of time within the day.

You can select which time to begin the review by entering it in the start time window or clicking on the time grid and moving the yellow line to the approximate start time.

Clicking on the **PLAY** button will begin the playback from the time selected. It will also bring up a playback toolbar allowing finer control of the playback process.



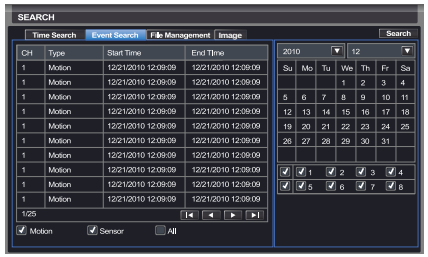
PICTURE 4-35

EVENT SEARCH

Selecting this tab will bring up a list of recorded events. Your DVR is configured by default to record when motion is detected. You can choose whether to display events triggered by Motion, Sensor or both. These files are saved as events.

Select the date you wish to search and click the **Search** button. You will be presented with a list of recorded events.

Select the channel and click the Double-click the event file you wish to play back.

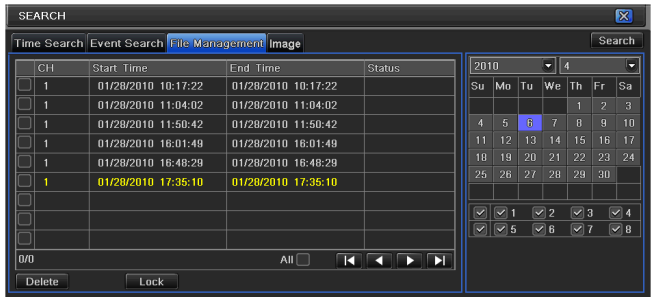


PICTURE 4-36

FILE MANAGEMENT

From within this tab you can lock, unlock or delete recorded events from the drive.

Clicking the **Search** button in the upper right of the window will bring up a list of events to be displayed. Results can be filtered by selecting date and channels if desired.



PICTURE 4-37

LOCK – Selecting a file and then clicking the Lock button will protect the event from being overwritten or deleted unless the entire drive is reformatted

UNLOCK – This will remove the file protection and the event recording can be deleted or overwritten normally

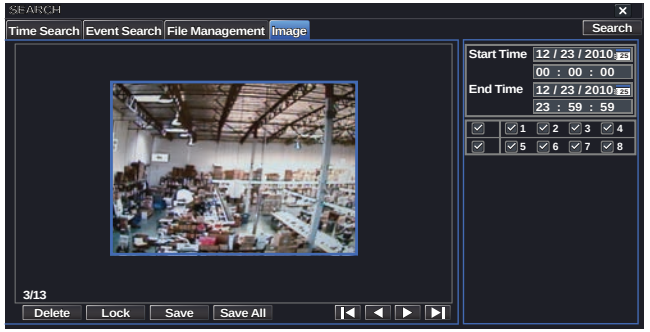
DELETE – If the event is not Locked, this will remove the selected event from the DVR.

NOTE! If the status shows "Writing" it means that the sector on the hard drive where the file is located is still being written to. You cannot delete the file until the file is completed and the word "Writing" disappears.

IMAGE

This tab functions much as the **Event Search** tab by allowing you to search for and view the still images captured when you click on the **Snapshot** icon on the **Control Bar**. These images are stored on the DVR's hard drive just as with video files.

Select the date to search, along with the start and end times to search between. You can also select which channels you want to include in the search. Clicking the **Search** button in the upper right of the window will bring up a list of available images.



PICTURE 4-38

After the search is completed, a count of available images will be displayed along with the first still image. The buttons at the bottom of this tab allow you to navigate through the images as well as save them for use outside the DVR.

DELETE – This will remove an unwanted image from the hard drive.

LOCK – This will prevent a file from being deleted. If a file is locked, this button will read **UNLOCK**.

SAVE/SAVE ALL – These buttons allow you to save individual or all of the images in the group to an external USB flash drive inserted in the USB port on the front of the DVR.

ARROW BUTTONS – Navigate to the first, last previous or next image in the group.

BACKUP CHAPTER 5

This DVR supports backing up files to USB flash drives, USB hard drives and USB DVD burners through the USB port on the front panel. Remote backups can be performed over the Internet. Refer to Section **2.4 Remote Backup** in the **Remote Monitoring Guide**.

NOTE! External USB hard drives used for backing up data will need to be in the FAT32 format. Most new drives will need to be reformatted before use with this DVR.

FORMATTING A USB DRIVE IN FAT32

To format a USB flash drive with FAT32, plug it into a PC running Windows XP or later. Go to **My Computer** to locate the drive's icon. Right click on it and select **Format** in the list of available options. Select **FAT32** and check the box marked **Quick Format** before clicking **Start**.

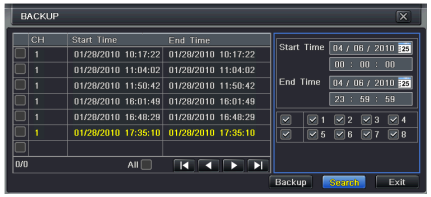
For USB drives over 32GB in size, you should use a FAT32 format utility such as those available through ***CNET.com***.

BACKING UP A FILE

Selecting **BACKUP** in the **Main Menu** will open the **Backup** configuration window.

The search for files to backup is much like the method used to search for files to play back as was covered in the previous chapter.

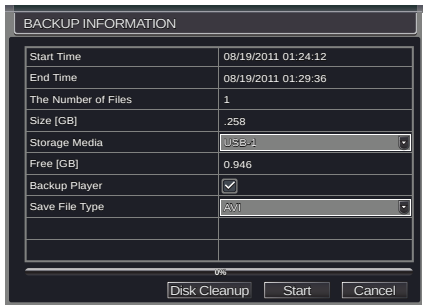
Set the start and end times as well as channel(s) you wish to back up. Clicking the **Search** button will bring up the search results in the **Data Backup** list box.



PICTURE 5-1

Select specific events or select the **All** button. Clicking the **Backup** button will bring up the **Backup Information** window:

This window will present a summary of the number of files, starting and ending times, total size of the files and whether you have space available on the receiving storage media. **Disk Cleanup** will erase the contents of the storage media to make room. You can select which type of device you are recording to as well as what type of file you will be creating.



PICTURE 5-2

Save File Type: Choose between **DVR** and **AVI**. The former will save the video in a proprietary format while the latter will create a standard .avi file usable by most media playback software. If you choose the **DVR** format, you need to select the Desktop Player option (see **Picture 5-2**) as well. This will save a stand-alone playback program in a separate folder labeled **Video Play** on the same drive.

Clicking on the **Start** button will begin the backup and the progress bar will display the progress.

PLAYING BACK A VIDEO FILE ON A COMPUTER

Windows PC - You may play AVI formatted files using Windows Media Player, QuickTime, DIVXplayer or other media players. The files can be opened and played in a similar manner to any other media file. You may need to download and install the K-Lite Codec as described above.

The Superplay.msi program is a PC-only application and is saved onto the same drive as video files when the Backup Player option is selected. Launch the software in the normal manner and then click on **Open Path** and navigate to the folder containing the video files and select the file you wish to play back.

Apple Macintosh - At this time, you must use the **Remote Backup** feature to save the file to your computer through the remote viewing software. See **Section 2.4** of the **Remote Monitoring Guide** for instructions on this process.

You ***MUST*** select the **AVI** format when backing up the video file for playback on a Mac computer. You can use the QuickTime player or other video player and open the video file in the normal manner.

IMPORTANT CONSIDERATIONS

Audio

If you have recorded audio with the video file that you wish to back up, you **MUST** select the **.DVR** format for your file. You will also need to ensure that the box next to **Desktop Player** is selected as well. If you are sharing the video with anyone, such as law enforcement, the player will allow them to hear the audio along with seeing the video. You may also use the player to convert the file to the more conventional .AVI format and the audio tracks will be included in the video. Please note that files backed up via a Macintosh computer will not retain audio.

Locking the file

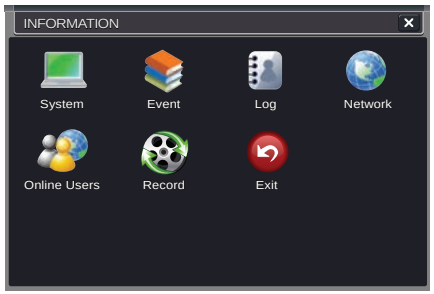
In situations where the video file is to be used as evidence, we recommend **locking the file first** as described in **Section 4.8 File Search, Playback and Management**. This can be done either locally on the DVR, or remotely through your mobile device or computer. Please see the **Remote Monitoring Guide** for instructions on performing this function away from the DVR. Once it has been locked, it cannot be erased or overwritten unless the entire hard drive is reformatted.

DVR MANAGEMENT CHAPTER 6

6.1 INFORMATION

PICTURE 6-1

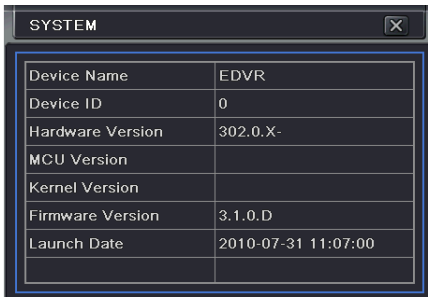
This window enables the user to monitor the status of the system, its network connection, online users, history and events through five submenus: **System**, **Event**, **Log**, **Network** and **Online Users**.



PICTURE 6-2

SYSTEM INFORMATION

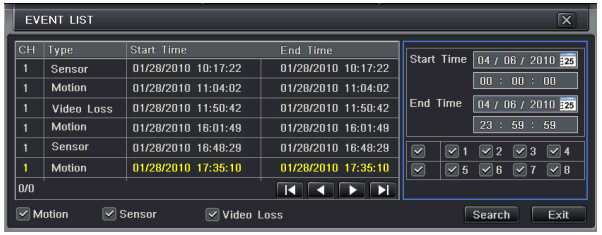
Data on the system's hardware, MCU (MicroController Unit), kernel (if applicable) and firmware versions can be found here along with the device's name and ID.



PICTURE 6-3

EVENT INFORMATION

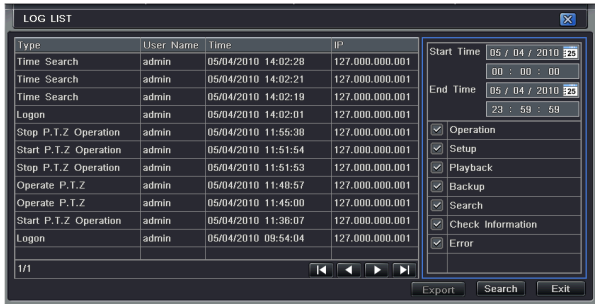
This window lists recorded events. This list can be searched by date, time, type of event and channel.



PICTURE 6-4

LOG INFORMATION

This window lists user activity within the system.

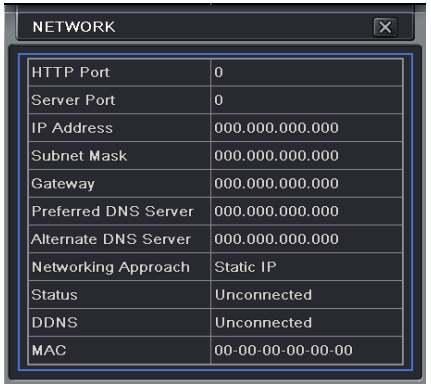


PICTURE 6-5

This record can be searched by type of operation, date and time, and etcetera. It can also be exported to external USB storage devices using the backup function.

NETWORK INFORMATION

This window shows the status of the DVR on the network including its assigned port, and other networking configurations.



PICTURE 6-6

ONLINE USER INFORMATION

Information on remote users currently connected is displayed in this window.

PICTURE 6-7

Refresh – Updates the list of online users

Disconnect – The Administrator can disconnect a selected user from the DVR. That PC will not be able to access the device for five minutes thereafter.

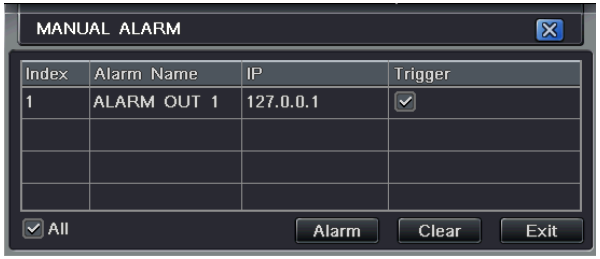
RECORD INFORMATION

This window provides information on your camera's recording resolution, the recording speed and what mode the camera is operating in. At the bottom is a bar indicating the percentage of the hard drive's capacity that has been used.

PICTURE 6-8

6.2 MANUAL ALARM

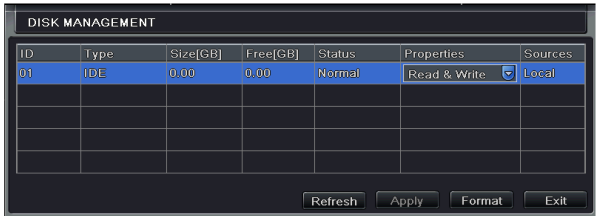
This displays the configuration of the manual alarm. See **Chapter 8** for information on connecting and setting up alarms.



PICTURE 6-9

6.3 DISK MANAGEMENT

This window displays information on the drive or drives mounted within the DVR including size, available space and status.



PICTURE 6-10

The drive can be set to read only, which will disable recording, but will preserve the data currently stored within it.

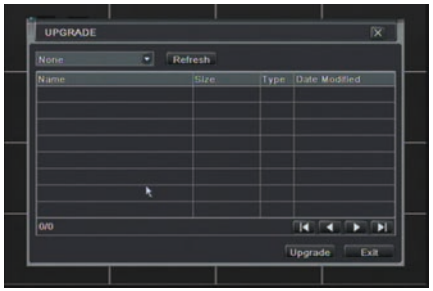
If you have upgraded your system by installing a new drive (**See Chapter 9**) you will need to first format the new hard disk before recording. You can reformat the current drive if desired by selecting the Format option in the drop down menu.

WARNING! Reformatting the drive will delete all recorded files stored on the hard disk regardless of whether they are Locked!

Refresh will update the information about the drive.

6.4 FIRMWARE UPGRADE

This window will display firmware updates that are loaded on a USB flash drive in the front USB port.



PICTURE 6-11

Firmware upgrades are available from Q-See at ***www.Q-See.com/Support*** and may be found by looking up your specific model. Firmware should only be upgraded to fix a specific problem or add features as ongoing development may result in features being removed.

The firmware download should be loaded onto an empty USB flash drive from the downloading computer and then transferred to the DVR using a USB port.

IMPORTANT! Please make note of your settings before updating the firmware on a QT426 or QT446 as the upgrade process will restore factory defaults. Other models will retain their user settings.

NOTE! While a Macintosh computer can read and write to a drive in the FAT32 format, it cannot reformat a USB flash drive to that standard. We suggest that you use a PC to reformat your USB flash drive to FAT32 and it is recommended that you download firmware updates on a PC. Beginning with version 3.1.71, you can use the Upgrade feature in the Remote Monitoring software (see **Section 2.5** of the **Remote Monitoring Guide**) to upgrade without a USB flash drive.

WARNING! Updating the firmware incorrectly or using the wrong update can permanently damage the chipset on the DVR and render it unusable. Updates are written to either resolve issues or add features to the DVR. If you are not experiencing performance issues or do not need a feature added by the update, we recommend not running the update.

6.5 LOGOFF

Logging out of the DVR is recommended when there are multiple users or when physical access to the DVR is not restricted. Clicking on the **Logoff** icon will bring up a window asking for confirmation.

After logging off, a user can log back in by clicking on the **Menu** icon and entering their user name and password.

6.6 SHUT DOWN

This is a “soft power down” of the DVR. It shuts down the firmware and hard drive, but does not power down the DVR itself.

WARNING! It is vital that the DVR be instructed to shut down using the **Shut Down** menu option prior to unplugging the device in order to avoid damaging the firmware or hard drive itself.

PAN/TILT/ZOOM CAMERAS CHAPTER 7

7.1 CONNECTING A PTZ CAMERA

All QT-Series DVRs can support one or more Pan/Tilt/Zoom, or PTZ cameras. These cameras connect to the DVR through the same ports as a conventional camera, but the control wires connect through the RS485 block on the back of the DVR. **Picture 7-1**, below, is only a representation and your actual connector may look different. Please consult **Chapter 2 Connections and Controls** to find the diagram representing your model for the location of your connector block.

The RS485 connector uses a single-direction protocol meaning that it can send commands out to the camera(s) but not receive any data back from the unit meaning that video images will be delivered through the video cable as with any other camera.

The DVR is set by default for RS485 to be disabled for each channel. Therefore, PTZ settings must be enabled before PTZ cameras can be utilized. This system supports 26 of the most common protocols including Pelco-D and Pelco-P.

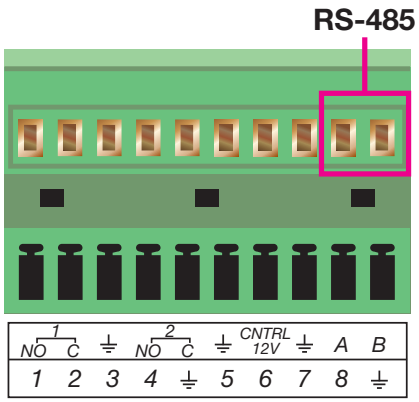
When connecting a PTZ camera, the following should be taken into account:

- The 485 port of this DVR cannot parallel connect with the 485 port of another device
- The voltage between the A and B lines of the camera should be less than 5V.

STEP 1. The data cable from the PTZ camera must be connected to the ports highlighted in **Picture 7-1**. Multiple PTZ cameras can be connected to this port, but you may require an expander port to do so.

STEP 2. Connect the other end of the cable to the proper pins in the connector on the camera

STEP 3. Connect the camera video and power cables as you would any other camera.



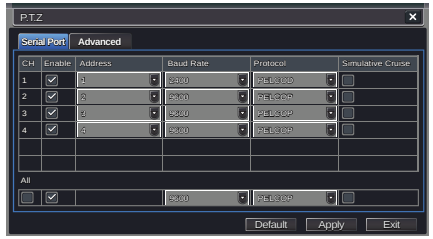
PICTURE 7-1

7.2 PAN-TILT-ZOOM (PTZ) CONFIGURATION

If you are connecting optional Pan-Tilt-Zoom cameras, the controls are set from this window in the **Serial Port** and **Advanced** tabs.

Serial Port Tab

You will need to consult your PTZ camera's manual for details regarding protocol and baud rate. Please note that the DVR may support more features than your camera offers including protocol and number of preset programs.



PICTURE 7-2

Cameras can be individually configured or a global set-up can be implemented through the **All** button.

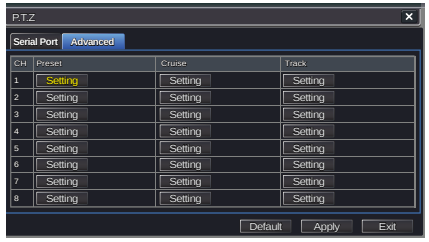
Simulative Cruise is for use with PTZ cameras using an unsupported protocol to allow you to use at least some of the features.

PTZ Definitions and Descriptions:

Parameter	Settings	What it Means
Address	1-255	The address of the PTZ camera
Baud Rate	110-21600	The speed that data is transmitted
Protocol		The communication protocol used by the camera. Supported protocols are; NULL, PELCOP, PELCOD, LILIN, MINKING, NEON, STAR, VIDO, DSCP, VISCA, SAMSUNG, RM110, HY

Advanced Tab

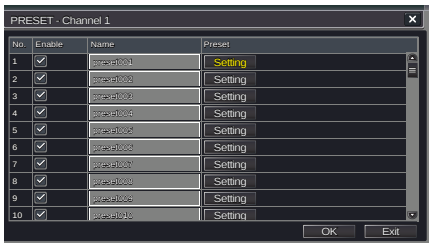
You can set your camera to follow a preset program or set cruising or tracking behaviors by selecting the **Setting** button in the **Preset**, **Cruise** or **Track** columns respectively.



PICTURE 7-3

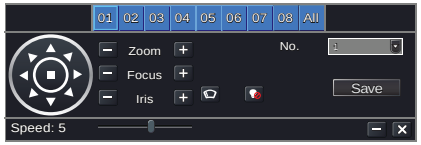
Preset

Clicking a **Setting** button in the **Preset** column will bring up another window



PICTURE 7-4

And, selecting **Setting** will bring up the camera view along with a control panel to program the camera's motion.



PICTURE 7-5

The dome's rotation can be controlled vertically, horizontally and diagonally along with its speed. The lens zoom, focus and iris (light level) can be set as well. Select the number you want to assign to this set of actions and click the **Save** button to save your preset. You can hide the control panel by clicking on the "**-**" button or right-clicking on the screen. The control panel can be unhidden by right-clicking on the screen again. The **X** button will exit the control interface.

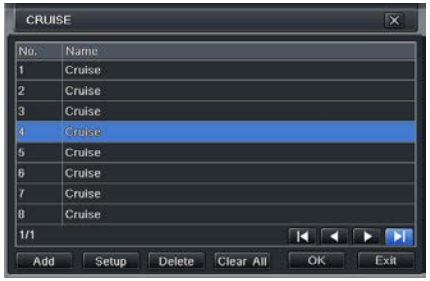
Cruise

Selecting a **Setting** button from the **Cruise** column will open the **Cruise** window.

Select **Add** or double-click on an existing line to modify and the **CRUISE PRESET** window will open.

Delete will remove a selected cruise line

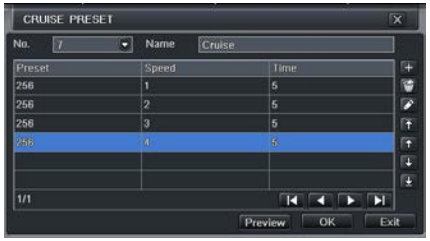
Clear All will remove all of the cruise lines.



PICTURE 7-6

The set of icons to the right of the screen are used to configure each cruise setting.

Preview – Preview the cruise to ensure that you have the desired results.



PICTURE 7-7

Name	Symbol	What it Does
Add		Opens a window to allow the user to set the speed and time of a new preset point
Delete		Deletes a preset point
Modify		Opens the settings window for the selected preset point allowing you to change the settings
Arrows		Enables the user to alter the position of a setting in the cruise order.
		Move a preset point all the way to the top of the order
		Move a preset point up one position in the list
		Move a preset point down one position in the list
		Move a preset point to the bottom of the order

Track

This interface is used to program the tracking routine for the camera. Clicking on the **Track** button will bring up the live view for that camera plus a control panel:

PICTURE 7-8

The user can control the dome's rotation direction, plus speed as well as the zoom, focus and iris.

Start Record – The system will begin recording the sequence of movements you perform on the PTZ control panel. Clicking this again will stop the recording.

Start Track – This will play back the tracking sequence you just recorded. Clicking on this button again will stop the playback.

ALARMS CHAPTER 8

Many QT Series DVRs feature connections for external alarms – both input and output. Please consult **Chapter 2 Connections and Controls** to determine whether your model includes this feature and where the connection block is located. The alarm connector block shown in **Picture 8-1** is only a representation and your actual connector may look different.

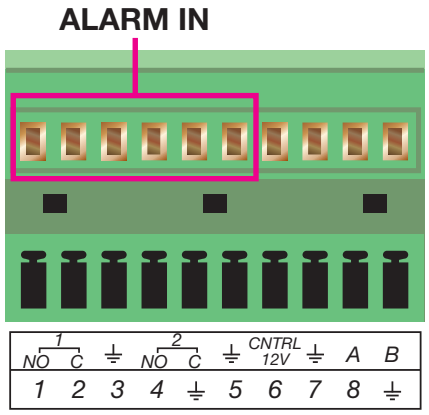
When an event is detected the system can notify local users or send notification to a monitoring service. At the same time, the system can accept signals from motion detectors, smoke detectors or other alarms and begin recording based on that input and your settings.

You will need to have the manual for your alarm(s) handy to ensure the proper settings within the DVR.

8.1 ALARM INPUT

When attaching alarms, the following criteria must be met:

1. The alarm input must be grounded.
2. A grounding signal is required for the alarm input
3. When connecting the DVR to another device - including another DVR - through the alarm input, a relay should be used to separate them.

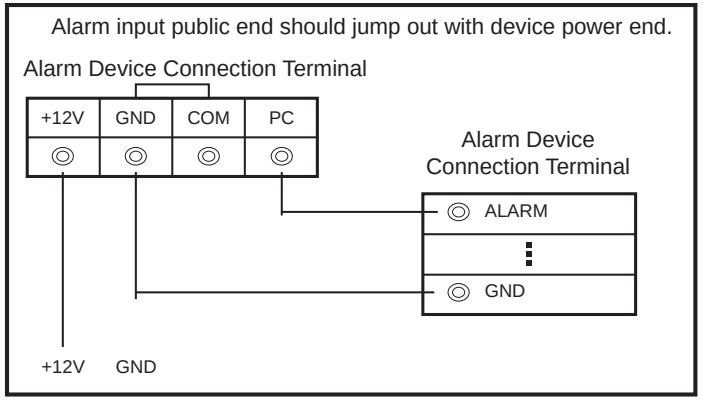


PICTURE 8-1

Parameter	Grounding Alarm
⏚	Ground line
Alarm Input	1, 2, …, 8 becomes valid in low voltage.
1-NO C 2-NO C	Two NO activation outputs.
CTRL 12V	Controls the power output You need to close the device power to cancel the alarm.

The accompanying diagram (**Picture 8-2**), along with your alarm's manual should be consulted to ensure proper connection.

- Normal open or Normal close type
- Parallel connect COM end and GND end of the alarm detector (Provide external power to the alarm detector).
- Parallel connect the Ground of the combo DVR and the ground of the alarm detector.
- Connect the NC port of the alarm sensor to the combo DVR alarm input(ALARM)
- Use the same ground with that of combo DVR if you use external power to the alarm device.



PICTURE 8-2

8.2 ALARM OUTPUT

The alarm output port should not be directly connected to a higher power load (greater than 1A) to avoid high current which may damage the relay. Use the co-contactor to establish the connection between the alarm output port and the load.

- 2 way relay alarm output (NO contact). Provides external power to external alarm device.
- To avoid overloading, please read the following relay parameters sheet carefully.
- RS485 A/B cable is for the A/B cable of the PTZ camera(s).

Relay Specification

Model:	JRC-27F	
Material of the contact	Silver	
Rating (Resistance Load)	Rated switch capacity	30VDC 2A, 125VAC 1A
	Maximum switch power	125VA 160W
	Maximum switch voltage	250VAC, 220VDC
	Maximum switch currency	1A
Insulation	Between contacts with same polarity	1000VAC 1minute
	Between contacts with different polarity	1000VAC 1minute
	Between contacts and winding	1000VAC 1minute
Surge voltage	Between contacts with same polarity	1500V (10×160us)
Length of open time	3ms max	
Length of close time	3ms max	
Longevity	Mechanical	50×106 times (3Hz)
	Electrical	200×103 times (0.5Hz)
Temperature	-40°C ~+70°C (-40°F to +158°F)	

8.3 ALARM CONFIGURATION

Alarm configuration allows the DVR to begin recording based on input from other remote sensors such as infrared motion detectors or contact alarms which are connected to it.

There are five submenus; **Sensor**, **Motion**, **Video Loss**, **Other**, and **Alarm Out**.

SENSOR

In this window you can setup optional external sensors to cause the DVR to begin recording. There are three tabs in this window: **Basic**, **Alarm Handling** and **Schedule**.

Basic Tab

This allows you to enable the input from attached sensors. You can also identify the sensors by name for ease in determining location.

Set the alarm type according to whether the alarm is NO (Normally Open) or NC (Normally Closed). See your alarm's manual for details.

Alarms can be individually configured or globally set using the **All** button.

PICTURE 8-3

Alarm Handling Tab

Configure how you want the DVR to handle the input from an activated alarm. Each sensor input can be set to launch individual sequences of action or they may be globally set through the **All** button to have the same results.

Hold Time: determines the time allowed between consecutive alarm events. If the alarm is triggered again within this time, it will be treated as a single event and the DVR will continue recording before stopping.

Trigger: This is what the DVR will do once activated by an alarm. Selecting **Setting** will open a new window with three tabs; **Alarm**, **To Record**, **To PTZ**

Alarm allows you to set whether a buzzer will sound, which camera (if any) will display in full screen mode, whether an e-mail will be sent and whether a signal will be sent via the ALARM OUT port.

PICTURE 8-4

PICTURE 8-5

To Record allows you to determine which cameras will begin recording. Cameras can be set to record individually, in blocks, or all cameras can be activated.

To PTZ activates preset, cruise or track functions on selected Pan-Tilt-Zoom cameras. Depending on your model of PTZ camera, one of up to 128 pre-set actions can be engaged. Check your camera's manual for details.

Schedule Tab

Set by default to always on, the schedule can be altered in the same manner as that used in **Schedule** in **SECTION 4.4**.

PICTURE 8-6

MOTION

Motion Tab

As with the **Alarm** function above, it incorporates hold time and can trigger procedures.

Select which cameras you wish to start recording on motion detection. Set the holding time which determines the length of time the cameras continue recording after motion stops.

In the **Trigger** setting, you can set multiple channels to record when motion is detected by a camera that has been set to activate upon motion detection.

For example: If Camera 1 detects motion, you can have it trigger Cameras 2 and 3 to begin recording as well.

PICTURE 8-7

In addition, the user can set the sensitivity of certain areas within the field of view by clicking on the **Select** button selecting the **Area** field for the respective camera.

Specific areas can be made sensitive by applying a blue grid to the desired section of the screen. The blue grid can be applied to the entire screen – signifying that the entire field of view is sensitive - by clicking on the **star button**. The **trash can** button will remove the grid completely. Click and drag with the mouse on the screen to draw or erase the grid in select areas.

PICTURE 8-8

As sensitivity is influenced by color and light level, you can adjust its values according to your specific conditions. The default value is "4." A setting of "8" is most sensitive while a setting of "1" is minimally sensitive.

Right-clicking in the screen will show or hide the control menu at the bottom of the screen.

Test your settings by moving something or someone through the grid area in the camera's view. Motion should not be detected outside of this area but you should see a yellow humanoid figure appear in the screen once the DVR detects movement within the grid. Removing the grid where there is a flag or trees that frequently move in the wind will prevent false alerts. Click on the **Disk** button to save your settings before exiting the setup process by clicking on the **X** button.

PICTURE 8-9

Schedule Tab

This is also set to be on all the time by default and it can be adjusted in the same manner as the **Schedule** configuration in **SECTION 4.4.**

PICTURE 8-10

VIDEO LOSS

In the event that signal is lost by one camera, others can be activated to record while additional devices can also be triggered.

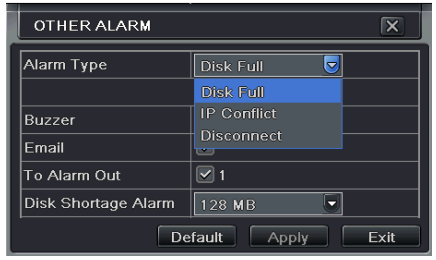
Like the **Trigger** tab in the **Alarm Handling** section of the **Sensor** menu, you can select the events that you wish to occur in the event that a video input is lost. Both Alarms and PTZ events can be scheduled as in the **Sensor** menu above.

PICTURE 8-11

OTHER ALARM

In this menu you can set the DVR to alert you to a full Hard Drive, IP Conflict on the network or a Disconnection.

You can set the response as well as at what threshold of remaining disk space you wish to be alerted.



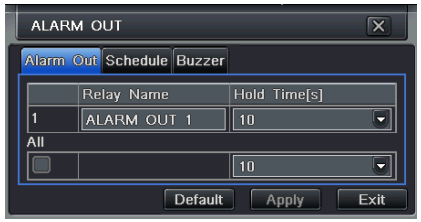
PICTURE 8-12

ALARM OUT

Set how the alarms are handled and transmitted in this window. This controls any device attached to the ALARM OUT port on the back of the DVR. There are three tabs; **Alarm Out**, **Schedule** and **Buzzer**.

Alarm Out Tab

You can set the relay alarm out name as well as the hold time. Hold time is the interval between consecutive alarm activations so multiple events within the interval will not cause the alarm to sound again.



PICTURE 8-13

Schedule Tab

The default setting is for the ALARM OUT to be active all the time, but this can be changed to meet your particular requirements in a similar manner to **Schedule** in **SECTION 4.4**.

Buzzer Tab

As with the **Alarm Out** hold time, the internal buzzer can be enabled and given a hold time.

HARD DISK DRIVE

CHAPTER 9

Your DVR uses a standard desktop or 3.5" SATA (Serial Advanced Technology Attachment) hard disk drive and will support drives up to 2TB (terabytes). These drives are the current industry standard and may be purchased wherever computer parts are sold. Depending on where you purchased your DVR, your hard drive may already be installed. But, we recognize that you may wish to upgrade or replace your drive in the future so this DVR is designed to make installation and replacement easy for the average user. A 5400RPM drive will work but a 7200RPM drive is recommended for optimal performance.

It should be noted that while this is the only user-serviceable part within the case besides the battery and you will not void your warranty by installing or upgrading your hard disk drive, care must be taken to avoid damage to the other components within the case. Such damage will not be covered.

WARNING! ELECTRIC SHOCK RISK!

The DVR **MUST** be unplugged from all power sources as well as from the cameras before opening the case. Failure to do so can result in damage to the DVR or its components as well as injury or death.

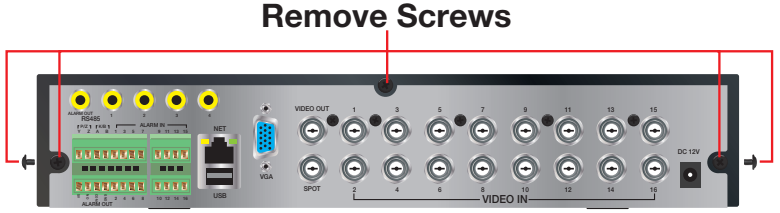
9.1 INSTALLATION/REMOVAL

It is strongly advised against opening the case when atmospheric conditions present the risk of static discharge which can damage electronic components.

Whether installing the drive for the first time or removing the old one to install a new one, the steps are largely the same:

STEP 1. Disconnect the DVR from the power source as well as any other connections.

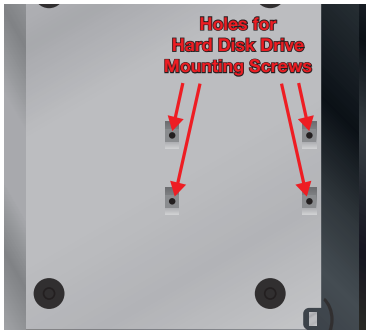
STEP 2. Remove screws (the number will vary depending on your model) from the side and rear of your DVR as indicated in **Picture 9-1**



PICTURE 9-1

STEP 3. Remove the case by sliding it backwards and then lifting off.

STEP 3A. If removing a hard drive, you will need to unscrew the four drive mounting screws at the bottom of the DVR or on the internal mounting rack.

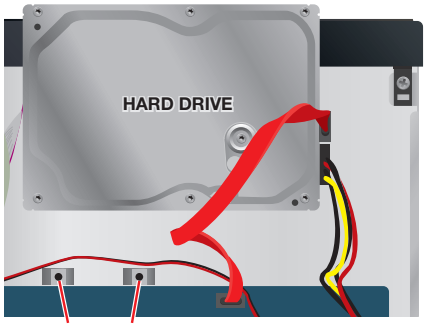


PICTURE 9-2

STEP 4. Connect the power and data cables. Press firmly, but do not force them onto the pins or you may damage them. The connectors are "keyed" to ensure they are connected in the proper position.

STEP 5. Attach hard drive to the base of the DVR with screws using the four mounting holes.

STEP 6. Replace the DVR cover and secure.



PICTURE 9-3

9.2 CALCULATING THE RECORDING CAPACITY OF A HARD DRIVE

While the physical data capacity of a hard drive is fixed, how much video you can record upon it depends on your recording configurations. Higher quality recordings will take up more space on the drive and setting the DVR to record for more frequently will fill it up more rapidly.

To determine the optimal capacity for your purposes, the chart below to estimate the size of hard drive that you'll need.

VIDEO FORMAT	RESOLUTION	FRAME RATE (FPS)	VIDEO QUALITY	BIT RATE (bps)	SPACE USED (MB/h)
NTSC/PAL	CIF	30/25	Highest	1000k	465
			Higher	768k	297
			Medium	512k	230
			Lower	256k	115
			Lowest	128k	56
	D1	30/25	Highest	2M	912
			Higher	1.5M	512
			Medium	1M	468
			Lower	768k	300
			Lowest	512k	244
	D1	7.5/6	Highest	500k	228
			Higher	375k	128
			Medium	250k	117
			Lower	192k	75
			Lowest	128k	61
	1080P	30/25	Highest	48M	5400
			Higher	36M	4052
			Medium	28M	3152
			Lower	16M	1800
			Lowest	6M	676
		7.5/6	Highest	12M	1350
			Higher	9M	1013
			Medium	7M	788
			Lower	4M	450
			Lowest	1.5M	169

The formula for calculating the required disk space is:

Total Recording Capacity = Used space per hour (MB/h) x Recording time (hour) x number of channels

Example: A customer is using the NTSC format (30 frames per second), CIF resolution with video quality set to Lowest and a total of 16 Channels. He wants the unit to record continuously for a month. Therefore, the calculation will look like this:

56(MB/h), x 24 (hours/day) x 30 (days) x 16 (channels) = 645,120MB or 650GB

Installing a 750GB SATA hard drive should provide enough space for one month's continuous recording time at those settings.

APPENDIX

A.1 TROUBLESHOOTING

1. The DVR does not start after connecting the power, what is wrong?

a. The power adapter may have been damaged, or is not providing enough power. Please change the adapter.
b. The DVR may not be getting enough power from the outlet or surge protector it is attached to.
c. There could be a problem with the system board on the DVR

2. The indicator lights of the DVR are on, but no output. Why?

a. The power adapter may have been damaged, or is not providing enough power. Please change the adapter
b. The video format of the DVR is different from that of the monitor.
c. Connection problem. Please check the cable and the ports of the monitor and DVR.

3. Why are no images displayed on some or all of the channels of the DVR?

a. Connection problem. Please check the cables and the ports of camera and DVR.
b. Camera problem. Please check the cameras by attaching them directly to TV or working port on DVR.
c. The video format (NTSC/PAL) of the DVR is different from that of the cameras. Please change DVR video format.

4. The DVR cannot find the hard disk drive.

a. The power adapter is not providing enough power, or the adapter is not getting enough power from the outlet
b. Connection problem. Please check the power and data cables on the HDD.
c. The HDD is damaged and will need to be replaced.

5. I cannot record, what could be the problem?

a. The HDD is not formatted. Please format it manually first.
b. The record function is not enabled or setup correctly. Please refer to **Section 4.3 Record Configuration**.
c. The HDD is full and recycle function is not enabled. Please refer to **Section 4.3 Record Configuration** and the **Recycle Record Tab** in the **Record Menu**.
d. The HDD is damaged and will need to be replaced.

6. I cannot use the mouse, what could be the problem?

a. Wait 5 minutes after connecting the mouse and then try again.
b. The mouse is not securely connected. Plug/unplug several times.
c. The mouse is incompatible with the system. Please try another mouse.

7 What can I do when the DVR starts and displays "please wait……"all the time?

a. First possible reason: hard drive power cable and/or data cable are not securely connected.
Solution: Please check the cable connections and make sure they are secure; if still not working, please unplug them and then plug them in again.
b. Second possible reason: The system is having problems reading the hard drive.
Solution: Try reformatting the current drive or re-placing it.
c. **Solution:** Try connecting the DVR to a different surge protector and power outlet.

8. How do I input letters and numbers?

To input letters (such as passwords) and numbers click the box behind where text is to be entered, and then a small keyboard will appear. Please select number or letter to input (the default password is ***123456***), or you can use the digital keys on the front panel, or the digital keys on the remote control.

PICTURE A-1

9. How do I upgrade the firmware on the DVR?

After you download the new firmware from the Q-See website at ***www.Q-See.com/Support*** and copy it onto a USB flash drive. Then select **Upgrade** in the menu.

WARNING! Do not turn the system power off during the upgrade process! Doing so may damage the chipset and prevent the DVR from starting.

10. I can get a live image on the display but I can't get the menu to display. How can I pull up the menu?

Hold down the **ESC** key to wait for login dialog box to appear.

11. I hooked the DVR up to a TV through the BNC video out port and I do not see anything on the screen. How do I get the video to display?

By default the DVR is setup to use a VGA monitor, if you want to use a TV instead then push the ESC button on the front panel and hold it until you hear a beep, if you still do not get a display then hold the ESC button down again until you hear a beep, the display should come up.

12. What is the minimum configuration of a PC for remote connection?

COMPONENT	MINIMUM REQUIRED
CPU	Intel Celeron 2.4G
MOTHERBOARD	Intel 845
HDD	80G
RAM	1GB
VGA	512MB Video RAM NVIDIA GeForce MX440/FX5200 ATIRADEON 7500/X300
OS	Windows XP(SP2 above) /VISTA/Win7
DIRECTX	9.0

13. **What are the PC configurations for 16-channel real time access with fully open mainstream channel?**

PC MODULE	PARAMETERS
CPU	Intel Core(TM)2 Duo CPU E4600
MOTHERBOARD	G41/P41 chip
HDD	80G
RAM	1GB
VGA	GMA3100/NVIDIA GeForce 8400/ ATI RADEON HD3450, 512MB Video RAM
OS	Windows XP(SP2 above)/ VISTA/Win7,
DIRECTX	9.0

14. On Vista and Win7 I am getting an error message that Codec can't be installed or is missing, how do I solve that?

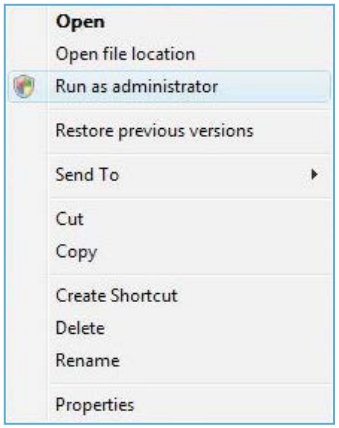
There are two ways to fix it:

a. In Windows, go to your **Control Panel** select **User Account and Family Safety** and then choose **User Account Control**.
Click **Turn User Account On or Off**. Uncheck the box next to **Use User Account Control (UAC) to help protect your computer**.

« Turn User Acco...
Search
Turn on User Account Control (UAC) to make your computer more secure
User Account Control (UAC) can help prevent unauthorized changes to your computer. We recommend that you leave UAC turned on to help protect your computer.
Use User Account Control (UAC) to help protect your computer
OK
Cancel

PICTURE A-2

b. Right-click on an Internet Explorer browser window. Select **Run as Administrator** to run browser.



PICTURE A-3

A.2 SPECIFICATIONS

Parameter		QT228	QT2124	
COMPRESSION	Format	Standard H.264 Baseline		
VIDEO	Video In	Composite 1.0V p-p/75Ω, BNC x 8	Composite 1.0V p-p/75Ω, BNC x 24	
	Video Out	COMPOSITE 1.0V p-p/75Ω, BNC x 1, VGA x 1, HDMI x 1	COMPOSITE 1.0V p-p/75Ω, BNC x 2, VGA x 1	
	VGA Resolution	1280x1024, 1024x768, 800x600		
	Record Resolution	NTSC: 352x240, 704x480 PAL: 352x288, 704x576		
	Display Frame Rate (per camera)	704x480 at 30FPS		
	Record Frame Rate (per camera)	NTSC: CIF 30FPS PAL: CIF 25FPS		
AUDIO	Audio Input	-8dB~ 22k, RCA X1	-8dB~ 22k, RCA X4	
	Audio Output	-8dB~92dB, RCA X1		
ALARM	Alarm Input	0	NO or NC 16CH	
	Alarm Output	0	1CH	
STORAGE	Record Mode	Manual/Sensor/Timer/Motion Detection		
	Multi-Function	Multiplex		
INTERFACE	Network Interface	RJ45 (LAN, Internet)		
	Communication Interface	RS485, USB 2.0 x 2 (One for Backup, One for USB Mouse)		
CONTROLS	PTZ Control	No	Yes	
	Remote Control	Yes		
DISK INFO	Disk Type	SATA x 2 (up to 2TB each)	SATA x 2 (up to 2TB each)	
OTHER INFO	Voltage	12V3A	12V5A	
	Optimal Temperature	50°F to 104°F 10°C to 40°C 10% to 90% Humidity		
	Power Use w/o Hard Drive	10W	40W	

Parameter		QT426	QT428	QT446
COMPRESSION	Format	Standard H.264 Baseline		
VIDEO	Video In	Composite 1.0V p-p/75Ω, BNC x 16	Composite 1.0V p-p/75Ω, BNC x 8	Composite 1.0V p-p/75Ω, BNC x 4
	Video Out	COMPOSITE 1.0V p-p/75Ω, BNC x 2, VGA x 1		COMPOSITE 1.0V p-p/75Ω, BNC x 1, VGA x 1 Loop Out x 2
	VGA Resolution	1280x1024, 1024x768, 800x600		
	Record Resolution	NTSC: 352x240, 704x480 PAL: 352x288, 704x576		
	Display Frame Rate (per camera)	704x480 at 30FPS		
	Record Frame Rate (per camera)	NTSC: D1 7.5FPS CIF 30FPS PAL: D1 6.25FPS CIF 25FPS		
AUDIO	Audio Input	-8dB~ 22k, RCA X4		-8dB~ 22k, RCA X16
	Audio Output	-8dB~92dB, RCA X1		-8dB~92dB, RCA X1
ALARM	Alarm Input	NO or NC 8CH	NO or NC 16CH	NO or NC 16CH
	Alarm Output	1CH		
STORAGE	Record Mode	Manual/Sensor/Timer/Motion Detection		
	Multi-Function	Multiplex		
INTERFACE	Network Interface	RJ45 (LAN, Internet)		
	Communication Interface	RS485, USB 2.0 x 2 (One for Backup, One for USB Mouse)		eSATA x2 RS485, USB 2.0 x 2 (One for Backup, One for USB Mouse)
CONTROLS	PTZ Control	Yes		
	Remote Control	Yes		
DISK INFO	Disk Type	SATA x 1 (up to 2TB)		SATA x 4 (up to 2TB each)
OTHER INFO	Voltage	12V3A	12V4A	110/220
	Optimal Temperature	50°F to 104°F 10°C to 40°C 10% to 90% Humidity		
	Power Use w/o Hard Drive	10W	20W	22W

Parameter		QT454	QT474	QT4332
COMPRESSION	Format	Standard H.264 Baseline		
VIDEO	Video In	Composite 1.0V p-p/75Ω, BNC x 4		Composite 1.0V p-p/75Ω, BNC x 32
	Video Out	COMPOSITE 1.0V p-p/75Ω, BNC x 2, VGA x 1	COMPOSITE 1.0V p-p/75Ω, BNC x 1, VGA x 1	COMPOSITE 1.0V p-p/75Ω, BNC x 1, VGA x 1, HDMI x 1
	VGA Resolution	1280x1024, 1024x768, 800x600		1920x1080 1280x1024, 1024x768, 800x600
	Record Resolution	NTSC: 352x240, 704x480 PAL: 352x288, 704x576		
	Display Frame Rate (per camera)	704x480 at 30FPS		
	Record Frame Rate (per camera)	NTSC: D1 7.5FPS CIF 30FPS PAL: D1 6.25FPS CIF 25FPS		NTSC: D1 7.5FPS CIF 30FPS 4CH D1 30FPS if others CIF PAL: D1 6.25FPS CIF 25FPS
AUDIO	Audio Input	-8dB~ 22k, RCA X4	-8dB~ 22k, RCA X2	-8dB~ 22k, RCA X16
	Audio Output	-8dB~92dB, RCA X1		
ALARM	Alarm Input	NO or NC 4CH	0	NO or NC 16CH
	Alarm Output	1CH	0	4CH
STORAGE	Record Mode	Manual/Sensor/Timer/Motion Detection		
	Multi-Function	Multiplex		
INTERFACE	Network Interface	RJ45 (LAN, Internet)		
	Communication Interface	RS485, USB 2.0 x 2 (One for Backup, One for USB Mouse)		eSATA x2 RS485, USB 2.0 x 2 (One for Backup, One for USB Mouse)
CONTROLS	PTZ Control	Yes		
	Remote Control	Yes		
DISK INFO	Disk Type	SATA x 1 (up to 2TB)		SATA x 4 (up to 2TB each)
OTHER INFO	Voltage	12V3A	12V3A	110/220
	Optimal Temperature	50°F to 104°F 10°C to 40°C 10% to 90% Humidity		
	Power Use w/o Hard Drive	10W	10W	42W

Parameter		QT4532	QT4516	QT4760
COMPRESSION	Compression Format	Standard H.264 Baseline		
VIDEO	Video In	Composite 1.0V p-p/75Ω, BNC x 32	Composite 1.0V p-p/75Ω, BNC x 16	
	Video Out	COMPOSITE 1.0V p-p/75Ω, BNC x 1, VGA x 1, HDMI x 1		COMPOSITE 1.0V p-p/75Ω, BNC x 2, VGA x 1, HDMI x 1
	VGA Resolution	1920x1080 1280x1024, 1024x768, 800x600		1280x1024, 1024x768, 800x600, HDMI
	Record Resolution	NTSC: 352x240, 704x480 PAL: 352x288, 704x576		
	Display Frame Rate (per camera)	704x480 at 30FPS		
	Record Frame Rate (per camera)	NTSC: D1 7.5FPS CIF 30FPS 4CH D1 30FPS if others CIF PAL: D1 6.25FPS CIF 25FPS		NTSC: 30FPS PAL: 25FPS
AUDIO	Audio Input	-8dB~ 22k, RCA X16	-8dB~ 22k, RCA X4	
	Audio Output	-8dB~92dB, RCA X1		
ALARM	Alarm Input	NO or NC 16CH		
	Alarm Output	4CH	1CH	
STORAGE	Record Mode	Manual/Sensor/Timer/Motion Detection		
	Multi-Function	Multiplex		
INTERFACE	Network Interface	RJ45 (LAN, Internet)		
	Communication Interface	eSATA x2 RS485, USB 2.0 x 2 (One for Backup, One for USB Mouse)	RS485, USB 2.0 x 2 (One for Backup, One for USB Mouse)	
CONTROLS	PTZ Control	Yes		
	Remote Control	Yes		
DISK INFO	Disk Type	SATA x 8 (up to 2TB each)	SATA x 1 (up to 2TB each)	SATA x 2 (up to 3TB each)
OTHER INFO	Voltage	110/220	12V3A	
	Optimal Temperature	50°F to 104°F 10°C to 40°C 10% to 90% Humidity		
	Power Use w/o Hard Drive	42W	20W	18W

Parameter		QT504	QT528	QT526
COMPRESSION	Compression Format	Standard H.264 Baseline		
VIDEO	Video In	Composite 1.0V p-p/75Ω, BNC x 4	Composite 1.0V p-p/75Ω, BNC x 8	Composite 1.0V p-p/75Ω, BNC x 16
	Video Out	COMPOSITE 1.0V p-p/75Ω, BNC x 2, VGA x 1		
	VGA Resolution	1280x1024, 1024x768, 800x600		
	Record Resolution	NTSC: 352x240, 704x480 PAL: 352x288, 704x576		
	Display Frame Rate (per camera)	704x480 at 30FPS		
	Record Frame Rate (per camera)	NTSC: D1 30FPS CIF 30FPS PAL: D1 25FPS CIF 25FPS		
AUDIO	Audio Input	-8dB~ 22k, RCA X4		
	Audio Output	-8dB~92dB, RCA X1		
ALARM	Alarm Input	NO or NC 4CH	NO or NC 8CH	NO or NC 16CH
	Alarm Output	1CH		
FUNCTION	Record Mode	Manual/Sensor/Timer/Motion Detection		
	Multi-Function	Simultaneously Record, View Live or Recorded Video, Playback, Back-up files, Monitor Remotely		
INTERFACE	Network Interface	RJ45 (LAN, Internet)		
	Communication Interface	RS485, USB 2.0 x 2 (One for Backup, One for USB Mouse)		
CONTROLS	PTZ Control	Yes		
	Remote Control	Yes		
DISK INFO	Disk Type	SATA x 1 (up to 2TB each)	SATA x 2 (up to 2TB each)	
OTHER INFO	Voltage	12V3A	12V4A	12V5A
	Optimal Temperature	32°F to 122°F 10°C to 50°C 10% to 90% Humidity		
	Power Use w/o Hard Drive	10W	18W	30W

Parameter		QT518	QT5116	QT536
COMPRESSION	Compression Format	Standard H.264 Baseline		
VIDEO	Video In	Composite 1.0V p-p/75Ω, BNC x 8	Composite 1.0V p-p/75Ω, BNC x 16	Composite 1.0V p-p/75Ω, BNC x 16
	Video Out	COMPOSITE 1.0V p-p/75Ω, BNC x 2, VGA x 1, HDMI, Loopout x 8	COMPOSITE 1.0V p-p/75Ω, BNC x 2, VGA x 1, HDMI,	COMPOSITE 1.0V p-p/75Ω, BNC x 2, VGA x 1, HDMI, Loopout x 16
	VGA Resolution	1920x1080, 1280x1024, 1024x768, 800x600		
	Record Resolution	NTSC: 352x240, 704x480 PAL: 352x288, 704x576		
	Display Frame Rate (per camera)	704x480 at 30FPS		
	Record Frame Rate (per camera)	NTSC: D1 30FPS CIF 30FPS PAL: D1 25FPS CIF 25FPS		
AUDIO	Audio Input	-8dB~ 22k, RCA X8	-8dB~ 22k, RCA X16	-8dB~ 22k, RCA X16
	Audio Output	-8dB~92dB, RCA X4		-8dB~92dB, RCA X1
ALARM	Alarm Input	NO or NC 8CH	NO or NC 16CH	NO or NC 16CH
	Alarm Output	4CH	4CH	4CH
FUNCTION	Record Mode	Manual/Sensor/Timer/Motion Detection		
	Multi-Function	Simultaneously Record, View Live or Recorded Video, Playback, Back-up files, Monitor Remotely		
INTERFACE	Network Interface	RJ45 (LAN, Internet)		
	Communication Interface	RS485, eSATA, Microphone USB 2.0 x 2 (One for Backup, One for USB Mouse)		RS485, eSATA x 2, Microphone USB 2.0 x 2 (One for Backup, One for USB Mouse)
CONTROLS	PTZ Control	Yes		
	Remote Control	Yes		
DISK INFO	Disk Type	SATA x 3 (up to 2TB each)		SATA x 8 (up to 2TB each)
OTHER INFO	Voltage	110/230V		
	Optimal Temperature	50°F to 104°F 10°C to 40°C 10% to 90% Humidity		
	Power Use w/o Hard Drive	22W	36W	50W

Parameter		QT548	QT578	QT5024
COMPRESSION	Compression Format	Standard H.264 Baseline		
VIDEO	Video In	Composite 1.0V p-p/75Ω, BNC x 8		Composite 1.0V p-p/75Ω, BNC x 24
	Video Out	COMPOSITE 1.0V p-p/75Ω, BNC x 2, VGA x 1, HDMI x 1		COMPOSITE 1.0V p-p/75Ω, BNC x 2, VGA x 1, HDMI, Loopout x 24
	VGA Resolution	1280x1024, 1024x768, 800x600, HDMI		
	Record Resolution	NTSC: 352x240, 704x480 PAL: 352x288, 704x576	NTSC: 352x240, 704x480 960x480 (960H) PAL: 352x288, 704x576 960x576 (960H)	
	Display Frame Rate (per camera)	704x480 at 30FPS		
	Record Frame Rate (per camera)	NTSC: D1 30 FPS CIF 30FPS PAL: D1 25FPS CIF 25FPS	NTSC: 960H & D1 30 FPS CIF 30FPS PAL: 960H & D1 25FPS CIF 25FPS	
AUDIO	Audio Input	-8dB~ 22k, RCA X4		-8dB~ 22k, RCA X16
	Audio Output	-8dB~92dB, RCA X1		
ALARM	Alarm Input	NO or NC 8CH		NO or NC 16CH
	Alarm Output	1CH		
STORAGE	Record Mode	Manual/Sensor/Timer/Motion Detection		
	Multi-Function	Multiplex		
INTERFACE	Network Interface	RJ45 (LAN, Internet)		
	Communication Interface	RS485, USB 2.0 x 2 (One for Backup, One for USB Mouse)		eSATA x2 RS485, USB 2.0 x 2 (One for Backup, One for USB Mouse)
CONTROLS	PTZ Control	Yes		
	Remote Control	Yes		
DISK INFO	Disk Type	SATA x 1 (up to 2TB each)	SATA x 1 (up to 2TB each)	SATA x 8 (up to 3TB each)
OTHER INFO	Voltage	12V3A		110/230V
	Optimal Temperature	50°F to 104°F 10°C to 40°C 10% to 90% Humidity		
	Power Use w/o Hard Drive	20W	20W	40W

Parameter		QT5032	QT5132	QT5140
COMPRESSION	Compression Format	Standard H.264 Baseline		
VIDEO	Video In	Composite 1.0V p-p/75Ω, BNC x 32	Composite 1.0V p-p/75Ω, BNC x 32	Composite 1.0V p-p/75Ω, BNC x 4
	Video Out	COMPOSITE 1.0V p-p/75Ω, BNC x 1, VGA x 1, HDMI x 1		
	VGA Resolution	1280x1024, 1024x768, 800x600, HDMI		
	Record Resolution	NTSC: 352x240, 704x480 960x480 (960H) PAL: 352x288, 704x576 960x576 (960H)	NTSC: 352x240, 704x480 PAL: 352x288, 704x576	
	Display Frame Rate (per camera)	704x480 at 30FPS		
	Record Frame Rate (per camera)	NTSC: 960H & D1 30 FPS CIF 30FPS PAL: 960H & D1 25FPS CIF 25FPS	NTSC: D1 30 FPS CIF 30FPS PAL: D1 25FPS CIF 25FPS	NTSC: 960H & D1 30 FPS CIF 30FPS PAL: 960H & D1 25FPS CIF 25FPS
AUDIO	Audio Input	-8dB~ 22k, RCA X16	-8dB~ 22k, RCA X4	-8dB~ 22k, RCA X2
	Audio Output	-8dB~92dB, RCA X1		
ALARM	Alarm Input	NO or NC 16CH		None
	Alarm Output	4CH	1CH	None
STORAGE	Record Mode	Manual/Sensor/Timer/Motion Detection		
	Multi-Function	Multiplex		
INTERFACE	Network Interface	RJ45 (LAN, Internet)		
	Communication Interface	eSATA x2 RS485, USB 2.0 x 2 (One for Backup, One for USB Mouse)	RS485, USB 2.0 x 2 (One for Backup, One for USB Mouse)	
CONTROLS	PTZ Control	Yes		
	Remote Control	Yes		
DISK INFO	Disk Type	SATA x 8 (up to 3TB each)	SATA x 2 (up to 3TB each)	SATA x 1 (up to 2TB each)
OTHER INFO	Voltage	110/230V	12V4A	12V2A
	Optimal Temperature	50°F to 104°F 10°C to 40°C 10% to 90% Humidity		
	Power Use w/o Hard Drive	42W	40W	5W

Parameter		QT5440	QT5516	QT5616
COMPRESSION	Compression Format	Standard H.264 Baseline		
VIDEO	Video In	Composite 1.0V p-p/75Ω, BNC x 4	Composite 1.0V p-p/75Ω, BNC x 16	
	Video Out	COMPOSITE 1.0V p-p/75Ω, BNC x 2, VGA x 1, HDMI x 1		
	VGA Resolution	1280x1024, 1024x768, 800x600, HDMI		
	Record Resolution	NTSC: 352x240, 704x480 960x480 PAL: 352x288, 704x576	NTSC: 352x240, 704x480 PAL: 352x288, 704x576	NTSC: 352x240, 704x480 960x480 (960H) PAL: 352x288, 704x576 960x576 (960H)
	Display Frame Rate (per camera)	704x480 at 30FPS		
	Record Frame Rate (per camera)	NTSC: 960H & D1 30 FPS CIF 30FPS PAL: 960H & D1 25FPS CIF 25FPS	NTSC: 30FPS PAL: 25FPS	
AUDIO	Audio Input	-8dB~ 22k, RCA X2	-8dB~ 22k, RCA X4	
	Audio Output	-8dB~92dB, RCA X1		
ALARM	Alarm Input	None	NO or NC 16CH	
	Alarm Output	None	1CH	
STORAGE	Record Mode	Manual/Sensor/Timer/Motion Detection		
	Multi-Function	Multiplex		
INTERFACE	Network Interface	RJ45 (LAN, Internet)		
	Communication Interface	RS485, USB 2.0 x 2 (One for Backup, One for USB Mouse)		
CONTROLS	PTZ Control	Yes		
	Remote Control	Yes		
DISK INFO	Disk Type	SATA x 1 (up to 2TB each)	SATA x 1 (up to 3TB each)	
OTHER INFO	Voltage	12V2A	12V3A	
	Optimal Temperature	50°F to 104°F 10°C to 40°C 10% to 90% Humidity		
	Power Use w/o Hard Drive	5W	18W	

Parameter		QT5680	QT5716	QT534
COMPRESSION	Compression Format	Standard H.264 Baseline		
VIDEO	Video In	Composite 1.0V p-p/75Ω, BNC x 8	Composite 1.0V p-p/75Ω, BNC x 16	Composite 1.0V p-p/75Ω, BNC x 4
	Video Out	COMPOSITE 1.0V p-p/75Ω, BNC x 1, VGA x 1, HDMI x 1		
	VGA Resolution	1280x1024, 1024x768, 800x600, HDMI		
	Record Resolution	NTSC: 352x240, 704x480 PAL: 352x288, 704x576		
	Display Frame Rate (per camera)	704x480 at 30FPS		
	Record Frame Rate (per camera)	NTSC: D1 30 FPS CIF 30FPS PAL: D1 25FPS CIF 25FPS		
AUDIO	Audio Input	-8dB~ 22k, RCA X2		-8dB~ 22k, RCA X1
	Audio Output	-8dB~92dB, RCA X1		
ALARM	Alarm Input	None		
	Alarm Output	None		
STORAGE	Record Mode	Manual/Sensor/Timer/Motion Detection		
	Multi-Function	Multiplex		
INTERFACE	Network Interface	RJ45 (LAN, Internet)		
	Communication Interface	RS485, USB 2.0 x 2 (One for Backup, One for USB Mouse)		RS485, USB 2.0 x 2 (One for Backup, One for USB Mouse)
CONTROLS	PTZ Control	Yes		No
	Remote Control	Yes		No
DISK INFO	Disk Type	SATA x 1 (up to 3TB each)		
OTHER INFO	Voltage	12V2A	12V3A	12V2A
	Optimal Temperature	50°F to 104°F 10°C to 40°C 10% to 90% Humidity		
	Power Use w/o Hard Drive	5W	8W	5W

Parameter		QT704	Q714	QT718
COMPRESSION	Compression Format	Standard H.264 Baseline		
VIDEO	Video In	SDI x 4		SDI x 8
	Video Out	COMPOSITE 1.0V p-p/75Ω, BNC x 1, VGA x 1, HDMI x 1		
	VGA Resolution	1280x1024, 1024x768, 800x600, HDMI, 1080P		
	Record Resolution	1080P		
	Display Frame Rate (per camera)	1080P at 30FPS		
	Record Frame Rate (per camera)	NTSC: 7FPS PAL: 6FPS	NTSC: 30FPS PAL: 25FPS	NTSC: 15FPS PAL: 12FPS
AUDIO	Audio Input	-8dB~ 22k, RCA X4		-8dB~ 22k, RCA X8
	Audio Output	-8dB~92dB, RCA X1		
ALARM	Alarm Input	NO or NC 4CH		NO or NC 8CH
	Alarm Output	1CH		
STORAGE	Record Mode	Manual/Sensor/Timer/Motion Detection		
	Multi-Function	Multiplex		
INTERFACE	Network Interface	RJ45 (LAN, Internet)		
	Communication Interface	RS485, USB 2.0 x 2 (One for Backup, One for USB Mouse), eSATA		
CONTROLS	PTZ Control	Yes		
	Remote Control	Yes		
DISK INFO	Disk Type	SATA x 3 (up to 3TB each)	SATA x 2 (up to 4TB each)	SATA x 2 (up to 3TB each)
OTHER INFO	Voltage	12V5A	12V5A	
	Optimal Temperature	50°F to 104°F 10°C to 40°C 10% to 90% Humidity		
	Power Use w/o Hard Drive	10W		

Parameter		QT7116
COMPRESSION	Compression Format	Standard H.264 Baseline
VIDEO	Video In	SDI x 16
	Video Out	COMPOSITE 1.0V p-p/75Ω, BNC x 1, VGA x 1, HDMI x 1
	VGA Resolution	1280x1024, 1024x768, 800x600, HDMI, 1080P
	Record Resolution	1080P
	Display Frame Rate (per camera)	1080P at 30FPS
	Record Frame Rate (per camera)	NTSC: 15FPS PAL: 12FPS
AUDIO	Audio Input	-8dB~ 22k, RCA X4
	Audio Output	-8dB~92dB, RCA X1
ALARM	Alarm Input	NO or NC 16CH
	Alarm Output	4CH
STORAGE	Record Mode	Manual/Sensor/Timer/Motion Detection
	Multi-Function	Multiplex
INTERFACE	Network Interface	RJ45 (LAN, Internet)
	Communication Interface	RS485, USB 2.0 x 2 (One for Backup, One for USB Mouse), eSATA
CONTROLS	PTZ Control	Yes
	Remote Control	Yes
DISK INFO	Disk Type	SATA x 8 (up to 4TB each)
OTHER INFO	Voltage	110/230V
	Optimal Temperature	50°F to 104°F 10°C to 40°C 10% to 90% Humidity
	Power Use w/o Hard Drive	40W

A.3 RACK MOUNTING

The QT446, QT4332, QT4532, QT518, QT5116 and QT536 all use 2U cases and include brackets and screws allowing them to be secured in a standard server rack or server cabinet. These DVRs are designed for **horizontal mounting only**.

The DVR must rest on a shelf sufficient to hold its weight. The included mounting brackets are only intended to keep the system from shifting and they are not sufficient to suspend the DVR alone. You will also need to provide bolts to attach the brackets to the rack.

Two mounting brackets and four screws are contained in the accessory box that accompanied your DVR. Some brackets will have three holes but only two screws are required to mount the bracket to the DVR.

The flanges to secure the DVR to the rack should be towards the front.

The DVR must have sufficient support when installed. The brackets are only to keep the DVR from moving. Ensure that all four holes on the two mounting brackets line up with holes in the rack.

If you will have limited access to the back of the DVR, it is best to make sure that all camera and other cable connections on the back of the DVR are secure before bolting the brackets to the rack.

Q-SEE PRODUCT WARRANTY

Q-See is proud to back all of our products with a conditional service warranty covering all hardware for 12 months from the date of purchase. Additionally, our products also come with a free exchange policy that covers all manufacturing defects for one month from the date of purchase. Permanent upgrading service is provided for the software.

Liability Exclusions:

Any product malfunction or abnormalities in operation or damage caused by the following reasons are not within the free service scope of our company:

1. Equipment damage caused by improper operation.
2. Improper equipment operation environment and conditions (e.g., improper power, extreme environmental temperatures, humidity, lightning and sudden surges of electricity).
3. Damage caused by acts of nature (e.g., earthquake, fire, etc).
4. Equipment damage caused by the maintenance of personnel not authorized by Q-See.
5. Product sold over 12 months ago.

In order to fulfill the terms of your warranty, you must complete the registration process after purchasing our product. To do this, simply fill out the User's Information Card on our website at www.Q-See.com

Qsee

QUESTIONS OR COMMENTS? CONTACT US

PRODUCT SUPPORT, DOWNLOADS, FIRMWARE UPDATES & MANUALS

24/7 Technical Resources
Live Chat (M-F, 9-5 PST)
www.Q-See.com/Support

simplicity - quality - technology

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